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Editorial Notes

THIS is the 120th number of ANTIQUITY, which has now concluded 30 years of its existence. Our circulation continues to rise steadily, as it must if we are to cope with the continuous rise in the cost of production. Archaeology is now popular; archaeological books are best sellers, and their standard is, on the whole, high. Throughout all these years we have tried to maintain our own standard and to give our readers popular but authoritative news and comments on what archaeologists are discovering. Our last number was very well received, and from the letters we have had we know that our readers liked it. We value these expressions of opinion very highly, and wish to thank those who wrote them; they could do us a good turn by getting others to subscribe and by giving their friends, as a Christmas present, a year's subscription to ANTIQUITY.

Part of our business is to keep readers up-to-date in the matter of books about archaeology, and this we do by printing reviews of them and by our advertisements. We do not, of course, censor our advertisements, but readers may be assured that the books we advertise are all of them good value and would also make useful Christmas presents! *Bones for the Archaeologist*, for example, by Dr Cornwall, is indispensable for an excavator because it shows him how to identify all those tiresome but important animal bones which turn up and embarrass him wherever he digs. Animal bones provide essential information about the life of prehistoric man, whether he was a hunter of game, a fisher or a herdsman. Perhaps we may be excused, in this context, if we mention also our own book, *Archaeology in the Field* (also a Phoenix House book) which is still selling well.

We wish to congratulate the British School of Archaeology in Iraq, which this year celebrates its Silver Jubilee. In order to mark the occasion a special exhibition is being held in the British Museum, by kind permission of the Trustees. The exhibition was declared open by Sir Leonard Woolley, on 14 November and will continue for a period of two months, in the Assyrian Basement, where the famous Assyrian sculpture found by Layard a century ago is also displayed and newly arranged. The School has excavated at eleven Mesopotamian sites which range over a period from about 5000 B.C. to 300 B.C., and have revealed the early development of city life in the Tigris, Khabur and Balikh valleys. Here may be seen the magnificent polychrome pottery from Arpachiyah, *c.* 4500 B.C., and pictures of the earliest domed buildings; the first sculpture from N.E.

Syria, *c.* 3400 B.C. ; a golden altar panel from the Eye Temple at Brak, *c.* 3000 B.C., and many other treasures of predynastic and early dynastic times. Afterwards, written records, mostly on clay tablets, reflect the increased economic prosperity which is illustrated by an abundance of metal work, jewellery and technological progress in all the arts and crafts. The arrival of the horse and the wheeled car, *c.* 2000 B.C. is well demonstrated by discoveries at Chagar Bazar in the Khabur valley. More recent work is illustrated by the remarkable finds from Nimrud (ancient Calah, the military capital of Assyria) where for seven seasons since the War, buildings, documents, art treasures and topographical information have widened our knowledge of the ancient Near East, particularly in the period 900–612 B.C. Notable exhibits from Nimrud include the earliest writing on waxed ivory tablets; a gold and ivory plaque depicting a lioness killing an Ethiopian; a collection of small ivory masterpieces, and a treaty tablet six hundred lines in length drawn up between King Esarhaddon of Assyria and the Medes in the year 672 B.C.

A handbook entitled *Twenty-five Years of Mesopotamian Discovery* describing the progress of Mesopotamian archaeology during this period has been written by Professor M. E. L. Mallowan who has directed all the School's archaeological expeditions. This short illustrated book will be available at the exhibition.

It is now common to deplore the cumbersome processes involved in collecting archaeological data out of a growing number of books, periodicals and unpublished collections ; an ever larger part of research work consists in repeated compilations which often result in the independent recording of the same facts by different individuals, in personal files which are seldom open to public use. In order to meet the obvious shortcomings of such a wasteful process, the Centre National de la Recherche Scientifique recently experimented at the French Institute of Archaeology in Beirut with a new method of recording archaeological data, combining the advantages of the public, but rigid, inventory in book form with those of the flexible, but usually private, index on loose notes. To reach that goal, it was found convenient to substitute—or add—to the traditional bound catalogue a set of cards containing the most minute description of the objects concerned, in terms of a precise analytical language—a ' code '—specially designed for that purpose. The elements of any description, for a given document, are transcribed on the card through a system of punchings, which make it possible to pick out in a few seconds, with the help of a simple and inexpensive instrument, all the cards punched in the same position(s), i.e. all the documents presenting one or several features in common.

The first index of that type concerns the metal tools of the Bronze Age found between the Balkans and the Indus Valley, with the exclusion of Egypt, It is now complete, in so far as the documents have been available to its author Mr Jean Deshayes, in the libraries and museums of Europe and the Near East ; the number of cards amounts at present to about 3,500*.

* For more details concerning the scope and nature of the index, see *Le fichier mecanographique de l'outillage*, a pamphlet edited and distributed by the French Institute of Archaeology in Beirut.

There is no limit to the number of descriptive features which can be recorded for any given object, nor to the number of ' questions ' which can be asked of the index in a single sorting operation. New documents are filed in as they become available, so that the index is easily kept up to date. Finally, it can be used by persons speaking different languages, for the definition of each individual feature in the code is given either by a drawing, or by a clear specification which will eventually be translated in English, German and Russian. Experimental indexes of the same nature are being set up for other fields of archaeology : weapons, ceramics and various sorts of iconographical documents such as coins and cylinders. It is hoped that an international agreement may soon be reached on the methods and standards of objective analysis which are thus proposed ; the wide distribution, at a relatively moderate cost of such public indexes should then meet the needs of all scholars for an improved method of handling a mass of documents which will otherwise prove more and more unwieldy.

Museums are essential for all students of archaeology, but they are somewhat unaccountable in their habits, as we all know to our cost. How often have we arrived, notebook in hand and full of eager anticipation, only to find the doors closed ! How could we know beforehand that we had chosen the wrong day ? We could not, because there was no comprehensive guide to tell us. That has now been put right by Index Publishers Limited, who have printed an excellent booklet giving just this information about the museums and picture galleries of Great Britain and Northern Ireland (Index Publishers Ltd., 69 Victoria Street, London, S.W.1, 3 shillings from publishers, 50 cents in U.S.A. and Canada). The Index has been produced with official support and co-operation, and contains details of over 700 institutions and is illustrated with more than 100 photographic reproductions. Archaeologists and tourists will find it quite indispensable.

Professor Leslie White, of the Department of Anthropology, University of Michigan, Ann Arbor, writes saying that he is collecting materials for a biography of Lewis Henry Morgan (1818–1881) who, together with Sir Edward Tylor, is generally regarded as the founder of anthropology. He is anxious to obtain photostatic copies of letters written by Morgan to certain well-known people with whom he is known to have corresponded, and in order to help him to achieve this we print their names here, in the hope that librarians or others may be able to help ; the date of the correspondence is given in brackets :—Charles Darwin (1871–77), Sir John Lubbock, later Lord Avebury (1871), Sir Henry Sumner Maine (1871–80), John Ferguson McLennan (date uncertain), Herbert Spencer (1872–77), Edward Burnett Tylor (1873), Charles Staniland Wake (1875).

Jericho and its Setting in Near Eastern History*

by Kathleen M. Kenyon

THE credit for the discovery of the great antiquity of Jericho belongs to Professor John Garstang, who excavated there between 1930 and 1936. In those days our picture of man's emergence from Palaeolithic and Mesolithic savagery through Neolithic barbarism to the civilization of the metal ages was a neat and tidy one. The nomadic hunters of the first stage discovered agriculture and stock-breeding and were thus assured of enough subsistence to become settled villagers, self-sufficient and unprogressive, but at least no longer savages. After long years of this unprogressiveness the eventual discovery of the uses of metal led to trade, specialization, the need for surplus food to feed the traders and specialists, the growth in importance of favoured areas such as the great river valleys and the development of the villages there into towns through the accumulation of surpluses and the consequent need for organized rule to control them. The theory was reasonable, and what was then known about the early village settlements in Western Asia and the rise of towns and states in the river valleys of Egypt and Mesopotamia seemed to fit the facts. A chronology of early villages in the later fifth millennium and the growth of towns in the later fourth, leading to states in the third, seemed to cover what was known.

Professor Garstang in his first soundings in 1935 of the lower levels at Jericho produced the first bit of evidence which was disturbing to the scheme. The Neolithic villages were characterized by the first use of pottery, the first of the new domestic arts and crafts, which were of obvious convenience to the housewife, but equally obviously an encumbrance to the nomad. The first pottery became in fact to many archaeologists the type-fossil of the Neolithic in place of the polished stone axes of the earlier generation. Professor Garstang's revolution was that at Jericho there was a perfectly good settlement over a long period of time, but no pottery.

Starting from the point at which Professor Garstang's excavations were suspended, the present expedition has proceeded far in the elucidation of the Neolithic of Jericho, and has continued its predecessor's revolutionary career.

We can in the first place claim that Professor Garstang's pre-pottery Neolithic people lived not in a village but a town. His discovery came late in his campaign, and he only located the typical remains in one spot, at the north-east end of the tell. With the advantage of the knowledge of what he had found, we could proceed to look for the same type of occupation elsewhere, and we have found that it extends beneath the whole eight acres of the Bronze Age city—no inconsiderable area by Palestinian standards, though not comparable with some of the great sites of Mesopotamia. We still lack accurate data about the Neolithic settlement to make a reliable estimate of population, but a modern oriental town of this size might house some three thousand people.

The inhabitants of this settlement had a highly developed culture. Up to twenty successive house-layers have now been excavated in several different areas and, throughout, the same characteristics of plan, equipment and custom appear. The architecture

* The text of the Marett Memorial Lecture delivered at Exeter College, Oxford on 5 May, 1956.

of the houses is one of the most characteristic features. The basic unit is a succession of large, well-proportioned rooms, communicating through entrances flanked by walls ending in rounded nibs[1]. Some of the entrances were certainly closed by doors, for the sockets of wooden posts appear in the ends of the walls. The floors are level, the walls rectilinear and approximately vertical, the plan of the rooms rectangular. Adjoining the principal rooms are smaller ones, some of them apparently storage chambers. A characteristic feature is that the floors and walls are covered with a layer of gypsum plaster, to which a most effective finish has been given by a fine coat of highly burnished plaster, pinkish or creamy in colour. So consistent is this feature that for convenience we have come to refer to the inhabitants as the Plastered Floor people. Another name which would be equally applicable, but more clumsy, would be the Thumb-impressed Brick people. The bricks are shaped like a flattened cigar on the surface of which is a herring-bone pattern made by the brick-makers' thumbs. Though the architecture and the building methods certainly show improvements in the successive levels, from bottom to top we find the same brick-type and the same plastered floors.

The houses open on to courtyards, in which are found the cooking hearths. It seems probable that the rooms are grouped round central courtyards, but the size of the houses is such that so far no one plan has been sufficiently cleared to determine this point; alternatively, courtyards may separate adjacent houses. So far, also, we have no evidence of any streets or lanes linking the different houses.

The equipment of these Plastered Floor people was lavish, even though it does not include pottery. Dishes and bowls were made of a fine limestone, worked to a beautiful finish; these no doubt were supplemented as containers by others in perishable materials such as wood and skin. There are a variety of mortars and grinding bowls in harder stone, and a large number of highly individual querns, not paralleled elsewhere, with a trough running out at one end of a sub-rectangular block, and a flat rim round the other three sides; these with the accompanying grinding stones are extremely well made. Hammer stones, pestles, coarse grinding stones and a great variety of polishing stones, some with an almost mirror-like surface, are other items in the household equipment.

The flint industry is that (called Tahunian) which has now for many years been recognized as the Neolithic of Palestine. The material which enabled the industry to be identified all came from caves or surface sites, in marked contrast to Jericho, a point to which I shall refer again. Blades, arrows, scrapers, borers and, perhaps the most interesting, a large number of finely serrated sickle blades, form the bulk of the finds. There are almost no axes, adzes, hoes or heavy chisels, which is a curious lack among a people who certainly made a considerable use of wood. Moreover, though the sickles attest the gathering of the grain, and the querns its use, none of the stone implements appears to be designed to cultivate the soil. It is possible that a number of large pierced disks of stone may be weights for digging sticks, thus supplying the deficiency.

A sidelight on the sophistication of these people, and on the comparative luxury of their houses, is provided by the evidence that they had rush mats on the floors, of the same weave as those in use today. It has been suggested to me that these should be interpreted as the bases of grain containers, like those on some other Neolithic sites. Some of the smaller round ones may have served this purpose, though there is no evidence of it, but others are too large, and others again rectangular, so there is no doubt that some at least represent floor-coverings.

An aspect which would have certainly interested Marett is the light thrown on the

[1] See ANTIQUITY, 103, pl. II b.

religion of these early inhabitants of Jericho. It is clear from the finds that they had developed the concept of an ' impersonal force '. Archaeologists are rather apt to write off finds which seem to have no practical use as cult objects, and to call buildings with peculiarities in plan temples, shrines or sanctuaries. But some at least of the Jericho finds, both of objects and buildings, do seem to invite this interpretation. One of the most interesting of these finds was a small room at one end of which was a niche with a rough stone pedestal set at its base. In the débris nearby was a remarkable stone, which exactly fitted the niche. It was elaborately chipped to form a column with a pointed oval section, and is made of a piece of volcanic rock derived from the Nebi Musa district, some ten miles away. Here surely we have an attempt to personify the ' impersonal force ', constituting in concept if not in direct succession the predecessor of the Semitic Mazzebah.

Small figurines of women with arms akimbo and their hands clasped beneath their breasts are a more conventional recognition of nature as a source of fertility ; they again have great interest as evidence of a very early stylization of the Mother Goddess. Figurines of animals, of which many were found, are also beloved of archaeologists as evidence of fertility rites, though they might equally well, and perhaps more attractively, be identified as children's toys.

To one other building, in addition to that in which the cult stone was found, I am also inclined to ascribe a religious use. Its central room was the largest we have found —20 feet in one direction by more than 13 (one side wall lay beyond the excavation area) in the other. This room had the usual finely burnished plastered floor, and in its centre was a neat little rectangular basin, also plastered, and strongly scorched by fire. At each end of this large room were annexes with curious curved walls. Even if this building is not to be interpreted as a temple, it is at least probably a public building, for it is quite unlike the stereotyped domestic buildings found elsewhere, and as such is evidence of the community organization.

But the most remarkable evidence of the attitude of the people of Jericho to things spiritual was what I think may be called their cult of skulls. The ordinary practice for the disposal of the dead was burial beneath the floors of the houses. Very often the cranium from these burials had been carefully removed, in most instances leaving the rest of the bones, including the lower jaw, in position, though there were instances where mass burials seem to have been literally ransacked to remove the crania, at a stage when the flesh of the bodies had partly but not completely decayed. The first find suggesting the use to which the skulls had been put was that of the skull of an elderly man carefully set upright in the corner of a room, beneath the floor, presumably to preserve his wisdom for the occupants of the house. The most remarkable find, of course, was that of the now famous skulls, in which the features had been restored in plaster. As an expression of the artistic powers of these people, and as the earliest known portraits in the direct line of ancestry of modern art, the interest and importance of these heads is outstanding (see Frontispiece). But perhaps even more so is their significance in the realm of religion. We have to call in anthropology to throw light upon this. In Polynesia skulls are treated in a somewhat similar fashion, though there perhaps the features are a plastered mask rather than, as it were, the encasing of the whole head except the crown with the plastered similitude of flesh. The Polynesian plastered skulls may apparently either be those of ancestors or of enemies, kept as trophies. I have personally little doubt that we should regard the Jericho heads as those of venerated ancestors. My first conviction of this was based on the loving care lavished on the modelling, and the highly individual character of each plastered face, suggesting that they were true portraits. This conviction is now

supported by factual evidence. The plastered skulls come from one horizon only. The first find was of a group of seven, buried in a discarded heap below the floor of a house. This year, in a slight extension of the excavated area we found two more, some fifteen feet away from the others but beneath the floor of the same house. The skulls were almost certainly derived from a mass burial underlying the floor of the house in which the heads must have been treasured. Such a mass burial, some thirty individuals, could, in the light of the general circumstances of the find, have been regarded as a massacre, and if attackers had then occupied the site, the skulls *could* have been regarded as trophies. But since then we have found many individual burials in almost every successive level, from which the skulls have likewise been removed. It is true that we have not found an equivalent number of isolated skulls ; but that may be because they were removed to some more central shrine not so far excavated. It seems legitimate to deduce that the reason is a ritualistic practice. Our people must have had a conception of the spirit as something existing apart from the living body, a spirit which could be honoured, placated or perhaps consulted, by the retention of that part of the body which somehow they realized to be the site of the spiritual faculties of the living man.

I have gone into considerable detail in my description of the remains we have found of this period, for I wished to emphasize to you the grounds on which I justify my use of a term which may come as a shock to purists, that of the *civilization* of Neolithic Jericho. In the canons of anthropologists and prehistorians, civilization comes only with the urban states of the great river valleys of the Near East in the third millennium, very many centuries later than Neolithic Jericho. But I make my claim unblushingly. Here we have no primitive village. We have a large community, with a unified culture, with elaborate and sophisticated architecture, a generous equipment to meet the needs of life, a growth of a spiritual sense which does not come to barbarians, and probably public and communal buildings. But—still more conclusive—we have evidence that in due course this people built themselves a town wall, or at the very least a citadel wall, a massive affair with great stones brought from the mountains half-a-mile or so away ; this was undoubtedly a community undertaking, indicating some form of communal organization, some form of group government. Here clearly we have a *civitas*, therefore by derivation it is not inaccurate to talk of a civilization.

Much of what I have so far said is a recapitulation of finds made in the earlier seasons' excavations. I now approach that which is new, which throws what we have so far learnt into yet more startling relief. When in 1952 we found the town wall which I have just mentioned, I referred to it as the earliest *known* town wall in the world, and I always carefully kept this qualification. Ostensibly, this was a sop to other excavators who might fancy that they would find an earlier one, but in my own mind I always made a reservation in the expectation that Jericho itself would produce one. That in due course it did, a yet more impressive stone structure situated almost vertically beneath the later one, but separated from it by a considerable interval of time. To this was transferred the proud title of the ' earliest known town wall ', but again with the qualifying epithet, and this year the qualification has again been justified, as we shall see later. The full magnificence of the defensive system to which this wall belonged has only been revealed this year. In front of it was a great rock-cut ditch, twenty-seven feet across and eight feet deep[2]. Behind it was a massive tower of solid stone, thirty feet across and surviving to a height of twenty-five feet (PLATE I). A bald description such as this

[2] ANTIQUITY 119, *frontispiece.*

does scant justice to these imposing structures. They would be impressive enough as part of a medieval castle, which the Ministry of Works would tend with loving care, and which sight-seers would visit at a shilling a head. But when one sees them based on rock 50 feet below ground level and contemplates the remote antiquity to which they must go back, one's conceptions of the rate of human progress are shaken to their foundations.

But even these defences are not the beginning of the great period of Jericho. This year we proved that this town wall belonged only to the third phase in the history of the tower, a phase in which the occupation levels deposited or lying against it had risen to nearly its surviving top. In its second phase it was a great free-standing cone at least twenty feet high. Within this cone lies a yet earlier core, and with this earlier core goes what has *now* become the earliest *known* town wall in the world, a wall which is even more impressive than its successor in that it was built free-standing on both faces, whereas the later ones were all built against an interior fill. Moreover, with the contemporary first phase of the tower goes its most remarkable feature. In its centre is a staircase of twenty steps leading down to a horizontal passage at its base. The staircase descends at an angle of about 30° from the vertical. The steps are constructed of great slabs of stone nearly three feet across, hammer-dressed to a smooth surface, and the roof is made of even larger slabs. Such a structural achievement by Neolithic man is almost unbelievable. The purpose of the staircase is still a mystery. True to the habits of Jericho, the passage at its base contained skeletons, twelve of them, inextricably jammed and pushed in ; but this was only a secondary use, for they were put in when the passage had silted up to within two feet of the roof. The passage leads somewhere, but unfortunately, as far as we are concerned, it leads to a point on the periphery of the tower which lies beyond our excavated area. A major clearance of fifty feet of deposit, with twenty feet of our own dump on top, must be made to find out, but clearly we must do it.

This brings me to what I regard as the major discovery of this season's work. Overlying the face of what has now become the second earliest town wall known, was a great tipped fill, with a layer of soft dark earth tailing up and over the top of the tower. Above this is a long series of the usual Plastered Floor houses. Many people have wondered why this excellent town wall was allowed to go out of use. The answer is that there was a major interruption in the life of the site.

When the débris tips over the town wall were being cleared, in them were found fallen bricks of a type different from the thumb-impressed ones hitherto found in the excavated buildings, bricks with flat bases and hog-backed tops. These have now been found *in situ*, in buildings very different from those to which we have become accustomed. The houses are apparently round, and sunk beneath the external level ; the walls are thick at the bottom but contract upwards, and apparently contain wattling. The remains suggest bee-hive dwellings, probably with a superstructure of branches. The equipment used by the occupants of these houses is again lavish, but quite different from that of the later occupants. It has not yet been fully studied, but a first inspection makes it clear that the flint industry, the stone bowls, the querns and grinders, are all quite different, and there is in particular a very fine and remarkable bone industry, of a type hitherto unknown in Palestine.

It is clear, therefore, that we have the remains of the occupations of two separate groups of people. Fortunately the stratigraphical evidence of the separation is very clear (FIG. 1). At the northern end of the tell there was evidence of a stream-bed, probably of storm-water, which cut through the remains of buildings of the earlier type. The stream-bed was cut down and silted up again on three successive occasions, indicating an

appreciable lapse of time, though one of course which it is impossible to estimate accurately. Immediately above the filled-in stream-bed appears the first of the plastered floors. In the area where the defences are being excavated the distinction is equally sharp cut. The houses and accompanying objects in use with the great tower and the contemporary town-walls are of the newly-found (older) types. The débris over the wall and tower corresponds to the decay period represented by the stream bed.

We thus now have evidence of two quite separate groups of Neolithic peoples at Jericho. The claim to civilization of the second I have I hope demonstrated. We do not know a great deal about the earlier, for the finds have yet to be studied. We do

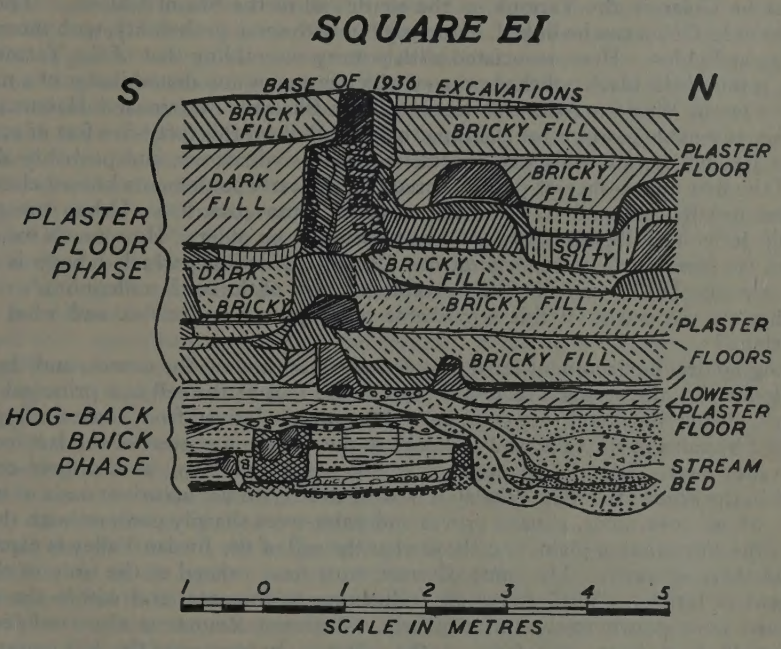

Fig. 1. TWO PHASES OF PRE-POTTERY NEOLITHIC JERICHO

not know the full extent of their settlement, though we do know that it covers the northern half of the tell. But to them belongs the magnificent defensive system associated with the tower, and the tower itself. Their achievements and community organization can thus not be doubted, and we can claim that they too were town dwellers and had evolved their own civilization.

So far, I have hardly touched on the problems of chronology. It is here that our conclusions are so revolutionary for the whole early history of the development of civilized man. We have reasonable evidence that the whole of these two phases at Jericho precedes some of the earliest hitherto known settlements elsewhere in Western Asia. The fact that neither of these Jericho groups used pottery is of course not in itself proof of extreme antiquity, for the Jordan Valley might be a backwater. But a reasonably sound link can be established between Jericho and the early pottery-users on other sites. The original

settlement at Jericho was established on the gently sloping surface of the rock between the foot of the mountainous edge of the Jordan Valley and the source of the spring by which the site stands. On this rock the stratified débris of pre-pottery occupation built-up a mound forty-five feet in height. Depth of deposit of course gives no yard-stick by which the passage of time can be measured, but one cannot doubt that the period was a very long one. Over the ruins of the latest layer covering this mound appears the first Neolithic pottery, which so far is peculiar to Jericho. Subsequently, a new type of pottery appears, that identified by the late Professor Garstang in the Level VIII of his sounding. This pottery can be linked with other sites. It closely resembles that found at Sha'ar ha Golan in the Yarmuk, at the south end of the Sea of Galilee. The finds from Sha'ar ha Golan can be linked, tenuously but with some probability, with those of the first stage at Byblos. Here, associated with pottery resembling that of the Yarmuk and Jericho, is found the black polished pottery which is a common denominator of a number of early sites in Western Asia—for instance, Ras Shamra, Mersin and Hassuna. We thus have reasonable grounds for claiming that the whole of this forty-five feet of accumulation at Jericho, representing two successive urban civilizations, and probably also the stage of the first appearance of pottery, precedes the early settlements known elsewhere. The date usually assigned to these last is about 4500–4000 B.C. Urban pre-pottery Neolithic Jericho lies before that, and must therefore be older. How much we cannot say until we have received reports on our Carbon 14 datings, which I hope is only a matter of weeks, but we can talk fairly confidently now of the sixth millennium[3].

What are the causes of this remarkable development at Jericho, and what are its implications ?

Geographical environment must play a major part among the causes, and there can be no doubt that the spring which still rises at the foot of the tell is a principal factor. The spring is perennial and very copious. Its water is derived from some underground source fed by rains in the hills, and it breaks to the surface just clear of the last foot-hills of the valley wall. Its original point of emergence is unknown, as it almost certainly lies within the area of the tell. Today it is used to irrigate the luxuriant oasis of modern Jericho, whose corn-fields, banana groves and palm-trees sharply contrast with the dead white of the surrounding plain, and show what the soil of the Jordan Valley is capable of, provided there is water. The same contrast must have existed at the time of the first settlement at Jericho. Wild grains are indigenous to the area, and within the natural oasis must have grown freely and regularly. Professor Zeuner is also confident that game would have been abundant on the plain. In contrast, the hill country was probably rather heavily wooded, an environmental deduction which is supported by archaeological evidence, for upland occupation does not become widespread until the urban development of the third millennium. Early settlers at Jericho would therefore have a good supply of natural food. But it is clear that a sedentary population of the size indicated by the area of the town, perhaps about 3000 in number, could not have been supported by the wild foods available within reasonable reach of the site, even if a better climate made the growth of wild grasses more reliable than it is today. It is reasonable to infer that when the town had reached its full size, and indeed when it had reached the size already proved for the earlier phase, efficient agriculture must have existed. I

[3] Since the date at which the Marett Lecture was delivered, the preliminary results of the Carbon 14 examination made under the direction of Professor Zeuner have become available (see p. 195). These give dates in the *seventh* millennium B.C. for material from layers considerably later than the beginning of the Plastered Floor stage.

believe one can go further than that. Today the extent of the oasis depends on the distribution of the water by irrigation channels, and I believe it is legitimate to suggest that in order to have an assured supply of grain for a population of such a size, an irrigation system must have been organized.

Prehistoric irrigation has hitherto been discussed by archaeologists mainly in relation to the great river valleys of Egypt, Mesopotamia and India. In this connection Professor Childe and others have emphasized the tie which bound the user of irrigation to his lands and therefore the impulse towards fully permanent settlement, the demand for the co-operation of a whole community and therefore the impulse towards community solidarity, the sanction which the control of access to the water provides and therefore the impulse towards some system of community government. But the evidence of Jericho suggests that we may carry all this back to a much more remote antiquity. The archaeological facts seem both to demand such an economic basis for the development of the settlement, and to be best explained by its social sequel. The stimulus to organization is provided by the evolution of an irrigation system, and the evidence of the community organization is plainly to be seen in the massive defences and all the other signs of a developed town-life.

The full picture will not be available until we have the reports of all the experts in the natural sciences on the finds bearing on the economy of the settlement. We shall not know how near the beginnings of agriculture the first inhabitants were until a report on the grains and grain-impressions shows to what extent the natural grasses had been altered by domestication. The problem of whether stock-breeding was at Jericho associated with agriculture depends on the evidence of the many hundreds of fragments of animal bones recovered. A preliminary examination makes it clear that hunting still played a part in the economy, for many of the bones are those of gazelle. Sheep, ass, pig and goat bones are also found, but to what extent, if any, these animals were domesticated is still in doubt, and so too are even the skeletal criteria of domestication. But that the archaeological evidence demands an assured food-supply for a large and fully settled population is not in doubt, and the final sum of the evidence will be an important contribution to our knowledge of food production.

We do not yet know if the earlier group, the Hog-backed Brick people, developed their civilization on the spot. It may be that there are the beginnings of a primitive village somewhere in the heart of the mound. Probably the solution of this problem must be left to our successors at the site, for I believe it can only be solved by a cut right through the heart of the mound, a colossal undertaking.

But one thing of major importance for Near Eastern archaeology is already clear. The later group, the Plastered Floor people, arrived at Jericho with a fully blown civilization, with house plans and building methods already stereotyped and with an equipment already so adequate to their needs that it seems to show very little development throughout the many successive levels excavated. Of whence they came, whether from near at hand in the Jordan Valley, or from further afield from some other part of the Fertile Crescent, there is at present no scrap of evidence, though perhaps one inference may be drawn, namely, that it was from near at hand. Before the evidence had emerged of the two separate groups, we wondered against whom the massive defences were erected. It seemed unlikely it would have been merely against envious food-gatherers, who could hardly organize themselves into groups strong enough to threaten such a prosperous community. Now of course it is reasonable to suppose that the Hog-backed Brick people were fortifying themselves against the Plastered Floor people. These latter must therefore have come from sufficiently close by to have been recognized as a danger, that

is to say, probably from somewhere in the Jordan Valley. Moreover, I think it is reasonable to suppose that the group established on top of the preceding town was not an isolated one. A single community, settled presumably in a reasonably favoured situation, since they had there developed a fully urban civilization, would surely not have constituted such a menace. I would therefore expect to find, perhaps hidden beneath later remains in the numerous tells of the Jordan Valley and its main tributaries, a sufficiently large number of townships of the Plastered Floor people to provide an ever-present danger to the Hog-backed Brick people, living at the prized site of Jericho. Moreover, at a later stage the Plastered Floor people too found it necessary to build fortifications, so they again were not living in isolation.

We must now consider the wider implications of the Jericho finds for the history of the beginnings of civilization and of the development of settlement which lies behind it. I have already referred to the appearance of Neolithic pottery at Jericho. We have evidence of the arrival of two successive groups with quite distinct pottery. Judging from the amount of pottery and its distribution over the whole area of the tell, the newcomers were numerous. But the structural remains attributable to either group are slight, and for the first group the evidence suggests a purely camping existence. Socially, the period is one of retrogression, of barbarians taking the place of townsmen. The first group made little progress in acquiring the attributes of a settled community; the second had permanent houses, but lived in a village rather than a town. This it seems to be true also of those other early settlements, which are probably contemporary with this stage of Jericho. None of them in extent suggests anything but a village; in none have the houses any great architectural pretensions.

These pottery-using Neolithic villages represent a stage which has long been recognized in the Near East, a stage which, as archaeology shows, progressed logically to the city states of the river valleys in the third millennium. What I think the Jericho evidence may show is that these villages represent a comparatively late stage in development. Between the end of the Ice Age and of its pluvial counterpart in the Mediterranean area on the one hand and these Neolithic villages on the other, there is a gap of some six thousand years. Some part of this is filled by the Mesolithic cultures, and the problem of their transition to the Neolithic is as yet unsolved. But in the cultures of the Neolithic villages there are already a number of strands intertwined. M. Dunand identifies nine different types of ware in the pottery of the lowest level at Byblos. Some of these differentiations may not be significant, but some certainly are. One type with incised herring-bone patterns can be linked with the Yarmuk and Jericho type; another, black polished, with many North Syrian sites. At Byblos, therefore, we may have a mixture of groups, each with a history of development behind it. Hassuna, Mersin and Ras Shamra each suggest a combination of elements.

The evidence seems to me to be growing for what one might call a large number of little beginnings of civilization, like a river formed by the gradual confluence of many little streams, taking their source in many different surroundings. Some streams may never have reached the main river, but have been lost in a desert like Abana and Pharpar, the rivers of Damascus, and this may be the case with the early flood at Jericho.

This diverse origin is emphasized when one considers the very varied characteristics of the early settlements. At Hassuna the stage in which there are links with Mersin and the other sites is a camping stage, with an economy of stock-breeding and probably of agriculture. This is succeeded by another stage in which there was a firmly established village. But preceding Hassuna in Northern Iraq had been Jarmo, a site which had a fully developed architecture, with evidence of agriculture, but in the lower levels no

pottery. At Mersin and Byblos there were pottery and permanent houses with flimsy superstructures. In Egypt, the successive or contemporary Neolithic inhabitants used pottery and cultivated crops and some were stock-breeders, but no substantial buildings are attested until late in the fourth millennium. At Khirokitia in Cyprus, the inhabitants lived in substantial round stone houses but had no pottery; as at Jericho they used stone bowls, but the bowls are completely different from the Jericho ones.

In Palestine another difference is suggested. I mentioned earlier that the flint industry of the Plastered Floor people is the Tahunian, previously found only in cave and surface sites. This suggests that in less favoured areas than the Jordan Valley groups of related origin were still living a semi-nomadic life.

The two successive pre-pottery Neolithic towns of Jericho are therefore evidence of a very much earlier and very much more rapid development of urban civilization than had previously been suspected, and, as I hope I have shown, this is unlikely to have been confined to Jericho. At a time when new knowledge is gained almost every year (the evidence of Jericho, Mersin, Hassuna, Jarmo and Byblos all dates from the last twenty years, and much of it from the last ten), there is no reason to suppose that new finds do not await us still. I therefore put before you, as a pure hypothesis, that in Western Asia there was, in the relatively favourable climate at the end of the Pluvials, a period of much more rapid development towards settled life and the Neolithic stage than has hitherto been suspected. The area covered by this may have been small, but I shall be surprised if it is limited to the Jordan Valley. What secrets are hidden in the cores of the innumerable tells of Syria? Thereafter, increasing desiccation may have given an advantage to those groups which had developed a less specialized economy; and it is their villages, certainly at Jericho superseding the town, which have hitherto been regarded as representing the first beginnings of the Neolithic way of life. Perhaps, twenty years hence, another Marett lecturer may be able to comment on this hypothesis.

The greater part of my lecture has been devoted to the setting of Jericho in the Neolithic period. But freely as I have treated its title, I can hardly ignore the contribution we have made to Near Eastern history in its more exact sense. Every Palestinian excavation should add to our knowledge of Near Eastern history. I wish to direct your attention only to those aspects to which Jericho may be expected to make a special contribution. These are derived almost entirely from its position. It is a commonplace that by historical times the great Fertile Crescent, stretching from Egypt to Mesopotamia via the Mediterranean coast and the Anatolian foothills, is the area of settled populations and growing civilizations, encircling a semi-desert and desert core occupied by nomads. From the dawn of history and no doubt long before, these nomads erupted at intervals into the fertile lands. Jericho guards one of the principal routes by which the Palestine coast-lands may be reached from the east. The arrival of new groups there reflects the process of penetration into Palestine as a whole, and on this our excavations have produced most interesting results.

I am going therefore to concentrate only on the periods of immigration. The first of these is at the end of the fourth millennium, when we have evidence of immigrant groups which in due course built up the urban population of Early Bronze Age Palestine. In the excavation of Early Bronze Age sites in the hill country of Palestine, the pottery which is found at the beginning of the period has become fairly well known. But what has not been apparent from these sites is that the pottery represents an amalgamation. At Jericho we have found tombs in which two groups of pottery, elsewhere found together are clearly differentiated, one type occurring in one group of tombs, another in a second.

A third group. likewise found combined in the hill country, can on the Jericho evidence be separated, for it does not occur in these Jericho tombs. At Jericho we may therefore have the point of entry of two of the groups, while the third, judging from the principal area of distribution of the pottery in the Plain of Esdraelon, presumably came in from the north. We have surprisingly little indication of where these groups came from. One cannot pick up a convenient trail of the pottery leading back to the homelands. This may be due to lack of excavation in surrounding countries; or it may be due to the fact that their previous way of life was largely nomadic and therefore little associated with the prominent sites likely to attract excavation. The Jericho evidence lends some support to this view in so far as little occupation on the tell can be attributed to them. It is only by a process of amalgamation that the town dwellers of the full Early Bronze Age and a people who probably formed the original Semitic element in Palestine were produced.

The urban civilization of the Early Bronze Age is the Palestinian equivalent of the city states of Mesopotamia and of the Old Empire of Egypt. We do not know if it ever achieved even the degree of political unity achieved by the successive hegemonies of Mesopotamia. Our only evidence is a fairly marked cultural unity; the Jericho evidence, with the seventeen rebuildings of the city wall, shows there were stresses and strains, which may have been due to both internal and external causes.

Of the external pressure which brought the Early Bronze Age civilization to an end after it had lasted throughout the greater part of the third millennium, Jericho provides dramatic evidence. The Early Bronze Age town disappears with a great conflagration of the last town wall, and its house-dwellers give way to tent-dwellers. The structural energies of the newcomers were entirely devoted to tomb-digging. They honeycombed the surrounding slopes with tomb-shafts, many of them vast and ludicrously out of proportion to the needs of the single individual interred therein. The evidence of these newcomers is found all over Palestine, but Jericho has again helped much to define their character. In the first place at least four quite different types of burial customs can be identified, and these can be interpreted as evidence of the tribal structure of the immigrants. In the second place, Jericho alone has produced the evidence that perhaps for a hundred years they camped in the city ruins and the surrounding hill-sides before they built their first houses, of poor and primitive architecture.

At this point in our story we are approaching so near to the historical period that we may venture to use a definite name for the newcomers. They can be identified with some assurance as the Amorites, that second Semitic strain which is recognized in Palestine, together with the Canaanites, by Biblical tradition.

Early in the second millennium this phase was ended by invasions bringing civilization once more to Palestine, and uniting it culturally with the Phoenician coast-lands. Of these invasions, Jericho does not provide direct evidence, for here we have to do not with nomads coming in from the east, but with a spread down from the north. Our evidence suggests a small settlement gradually growing into a full-blown town, with its maximum development in the 18th and 17th centuries, when Asiatics had their brief moment of triumph in conquering and ruling Egypt. The military innovations which enabled the Hyksos warrior bands to defeat the Middle Empire of Egypt are reflected at Jericho by vast new systems of fortifications of a type which can be recognized from the Syrian plains to the Egyptian Delta. And finally Jericho provides vivid evidence of the re-assertion of Egyptian power in the 16th century in the remains of a city utterly destroyed by fire, and abandoned for perhaps a century and a half.

Up to this point, though our archaeological evidence has enabled us to see Jericho in the setting of general history, and to draw conclusions which contribute to general

history, the city has not appeared recognizably in the written record. Unfortunately, when it does, the archaeological evidence largely fails us. The Book of Joshua records the penultimate invasion of Palestine by nomads from the east. Jericho is a key-point in the story. Textual scholars have by a process of fragmentation reduced the Israelite entry in Palestine to many elements. But in all, an entry from the east *via* Jericho must play a part, whether one associates it with an early or a late, a northern or a southern, a Josephite or an Ephraimite element. I am merely a cautious archaeologist. I refuse to enter into an elaborate discussion of how the various Biblical chronologies can best be adjusted to fit the demands of the fragmented texts. All I can do is to record what seem to me to be the archaeological facts. The first, about which there is no doubt at all, is that most of the Late Bronze Age town, and all its walls in the areas so far examined, were eroded away by rain and wind during the periods when the site was abandoned. The second is that my interpretation of the scanty surviving remains indicate an end of Canaanite Jericho, presumably due to the Israelite invasion, somewhat after the middle of the 14th century, a date which satisfies neither of the main schools of textual critics.

I referred to the Israelite invasion from the east as the penultimate. The last of course is that of the Arabs. Though the tell of Jericho had by then long ceased to be the site of an important town, it has not failed us in producing evidence of the period in the form of a little stone building of the early Ommayad period, of which the contents illustrate that combination of the new and the old which is the recurrent theme of so much of Near Eastern history. The finds are basically Byzantine, but are not true Byzantine. They are hybrid, and this constant hybridization is the key to continuity throughout Near Eastern history.

In conclusion, I must hark back to the Neolithic. From the third millennium onwards Jericho has its setting in history. That history is definitely Near Eastern or even more narrowly Palestinian. But before that I must admit that almost everything in the title of my lecture is inexact. I would claim that for Near Eastern should be substituted at least Old World, and for history I must ask for a wide definition on the grounds that archaeology is a tool to carry history back long before the appearance of the written word. All archaeologists and historians admit the sources of European civilization to be in the Mediterranean and Western Asiatic area; most archaeologists accept the theory that the immediate, if not also the ultimate, centre of the preceding stage, representing the growth of permanent settlements, is Western Asia. I have today put before you the claim that Jericho is the only presently known site of the first flowering of a civilization which after many struggling millennia eventually became our own. As such, Jericho claims a unique place in the setting not of Near Eastern but of world history.

The Radiocarbon Age of Jericho

by F. E. Zeuner

It is evident from Dr Kenyon's excavation and has been stressed by her repeatedly that the absolute age of the pre-pottery levels of the tell of Jericho is likely to exceed that of other Neolithic sites. It is understandable, therefore, that radiocarbon dates for these deposits are eagerly awaited. On the other hand, in view of the importance of such dates, it has been necessary to proceed with great care. The Geochronological Laboratory has, for some time, been investigating the influence of the history of the sample-specimens on the radiocarbon dates obtained. This work has been done in conjunction

with the Royal Institution and under the auspices of the Department for Scientific and Industrial Research, with the writer as investigator. Dr A. R. Crathorn was the first to act as assistant; he was followed by Mrs Vera Smith, whose place has now been taken by Mr D. E. Vaughan. Instead of solid carbon (as used by Dr Libby) acetylene is prepared from the sample and counted in a gas counter (**1, 2**).

The work on Jericho is part of a larger investigation on the sources of error in radiocarbon dating (**3, 4**), and work on other sites has caused me to be particularly cautious in the case of Jericho. For this reason, it is intended to count a large number of samples which have been pretreated chemically in different ways. The present, preliminary, report is not intended to deal with this complex problem. It may suffice to say that the tell samples are contained in an alkaline medium, and thus differ profoundly from the frequently studied peat and charcoal samples of many prehistoric sites which are more or less acid. The effects of selective removal or addition of foreign carbon, as well as exchange of carbon ions, have to be considered in this connection.

In order to obtain a preliminary series of dates which may be regarded as sufficiently reliable from the archaeological point of view, specimens from the Jericho tombs, from Qumran, and from Wadi Muraba'at were studied, in addition to those from the tell. Three groups of these samples may be considered as securely dated by archaeological evidence. These came from the Middle Bronze Age tombs (1650 B.C.), a late Chalcolithic tomb (3200 B.C. $\pm$200) and from Khirbat Qumran (A.D. 68).

The test specimens yielded the following results[4]:—

GL. 25. Date palm from Qumran, charred.
Expected age (making allowance for the age of the palm), 1935 $\pm$ 35 years : *c.* A.D. 15.
Radiocarbon age, 1940 years $\pm$ 80 : *c.* A.D. 10. This agrees well with the date for the burning of the trunk, A.D. 68, allowing for the age of the tree.

GL. 6. Furniture wood from Middle Bronze Age tomb B. 35 (see **5**).
Expected age, 3600 $\pm$ 50 years : *c.* 1650 B.C.
Radiocarbon age, 4100 years $\pm$ 150 : *c.* 2150 B.C.

GL. 5. Furniture wood from Middle Bronze Age tomb B. 35, second sample.
Expected age, 3600 $\pm$ 50 years : *c.* 1650 B.C.
Radiocarbon age, 3270 years $\pm$ 110 : *c.* 1320 B.C.

GL. 30. Remains of flesh from Middle Bronze Age tomb J. 19.
Radiocarbon age, 1st count, 3150 years $\pm$ 100 : *c.* 1200 B.C.
2nd count, 3270 years $\pm$ 80 : *c.* 1320 B.C.

GL. 24. Charcoal from Late Chalcolithic tomb A. 94.
Expected age, 5150 $\pm$ 200 years : *c.* 3200 B.C.
Radiocarbon age, 5210 years $\pm$ 110 : *c.* 3260 B.C.

It will be noticed that the samples from the Essene Monastery of Qumran and from the Late Chalcolithic tomb gave the correct result (within the standard deviation), whilst the samples from the subterranean Middle Bronze Age tombs do not agree with the expected age. This disagreement illustrates the peculiar chemical conditions existing in the Middle Bronze Age tombs, in which both leaching and infiltration of substances have taken place, and which have been entered by gases rising on the rift fault. This matter has been investigated by the writer (see **6**) and a final report is in preparation. The presence of carbon dioxide, methane and carbon monoxide has been established.

[4] The *expected* age is given with its absolute margin in years, the *radiocarbon* date with the standard deviation, see (**4**).

The relative humidity in the tombs being very high, it is evident that the samples have suffered chemical alteration. The fact that the samples from the two 'open' sites (the chalcolithic tombs must be classified as such) gave highly satisfactory results proves that the apparatus is reliable and that deviations are likely to be due to the condition of the material.

Specimens collected from the tell of Jericho may be classified as 'open' sites material. They have, however, been covered with great thicknesses of later town débris and may have received additions of younger organic substances carried down in solution. The radiocarbon date, on these grounds, therefore provides a minimum age only, although it is not likely that the influence of younger humus is very great in this case. This problem, as well as that of the influence of the methods of chemical preparation employed, is being investigated. It should be noted that more intense washing with alkali appears to result in radiocarbon dates about 10–15 per cent higher than those quoted below.

Two samples from the upper part of the pre-pottery Neolithic complex gave the following results :—

GL. 28. Site E, phase F, charcoal indet. (see **7**, fig. 4).
Radiocarbon age, 8200 years ±200 : *c.* 6250 B.C.

GL. 38. Square F1, layer Y, tamarisk charcoal (see **7**, fig. 2).
Radiocarbon age, 7800 years ±160 : *c.* 5850 B.C.

These values were obtained from samples comparatively high up in the pre-pottery sequence, and it is likely that the lower layers, from which specimens are now being prepared for examination, will yield considerably greater ages. Since for the reasons stated, the dates obtained may have a tendency to be on the young side, it becomes evident that the pre-pottery Neolithic city of Jericho is not only the oldest city in the world but the oldest Neolithic settlement so far known.

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Vallhagar: a review*

by Grahame Clark

THE excavations recorded in these magnificent volumes are of quite outstanding interest to anyone concerned with the pre- and protohistory of north-western Europe, not merely for what they tell us about the peasant-farmers of the Migration Period (A.D. 400–550) in Gotland, but as a demonstration of what can be achieved by modern methods in the way of reconstructing a past no trace of which is recorded in history. In their inception the Vallhagar excavations (1946–50) were regarded by their Swedish sponsors as something in the nature of a gesture of reconciliation, more particularly between the northern peoples, after the war years. Certainly the enterprise has been carried out from beginning to end as a piece of team-work. Some hundred archaeologists from eight countries took part in the field-work and over thirty have contributed to the publication, which is edited by the director of the excavations, Professor Mårten Stenberger, assisted by Dr Ole Klindt-Jensen of the National Museum of Denmark. Part I has been devoted to a description of the geographical setting and to detailed accounts of the excavation, structure by structure, of the settlement, of the three cemeteries in the immediate area and of the coastal fort of Styrmansberg. Part II, on the other hand, is concerned with the small finds—botanical, zoological and anthropological, as well as archaeological—and with setting the whole in its correct historical setting.

The twenty-four buildings revealed at Vallhagar point to the existence of five or six (just possibly seven) farmsteads, each comprising a dwelling-house (often with cattle byre) and ancillary buildings. Stenberger believes that the social unit must have been the great family group, known from historic times in Gotland and in other parts of Sweden; each individual family unit lived separately in its own farm, but for many activities, such as clearing the land or harvesting, the community operated as a unit under the leadership of an elder.

The economy of the Vallhagar community was based on mixed farming in which stock-raising certainly played a leading part alongside cereal-cultivation: despite the proximity to the coast, only 3 km. away, there is no evidence for fishing and only a few seal-bones testify to hunting.

The site lies on a low ridge of crystalline limestone with a thin capping of morainic deposits, which must originally have carried forest. Deposits of charcoal show that burning was used in the clearance and it was such that brought out the criss-cross furrow marks found under one of the field-walls. These markings, combined with the broad, short form of the fields, show that the scratch-plough or ard was used for cultivation, and an iron share recovered during the excavations had evidently been fitted to a wooden ard, probably of the crooked type. The ancient fields were marked off by banks of earth and stone, in which wooden fences may sometimes have been set, as in modern times. These fences, which doubtless served to define the property of individual families, as well as using up field-stones and preventing the livestock from devouring crops, survive in the form of low spread banks (*vastar*). Hans Helbaek's determinations show that

* *Vallhagar: a Migration Period Settlement on Gotland, Sweden*, pp. 1205, figs 523, 4 folding plans. Edited by Mårten Stenberger in collaboration with Ole Klindt-Jensen. Ejnar Munksgaard, Copenhagen, 1955. Price, Danish kr. 200.

hulled six-rowed barley was predominant among the cereals, but that einkorn, emmer, spelt and rye were also cultivated. The presence of spelt and the absence of oats show that the Gotland agriculture can hardly have been derived from Denmark and emphasizes the need for intensive research on prehistoric cereals from the Swedish mainland and from the lands south and east of the Baltic. The Vallhagar peasants also grew flax and cameline, doubtless for their oil-bearing seeds. Porridge was probably an important element in their diet—the charred residue of some such food was recovered during the excavations—and it may be that it was to season this that they gathered the seeds of various wild plants.

It is noteworthy that among the wild plants identified from the settlement there were many characteristic of meadow-land, such as creeping buttercup, white clover, rib-wort and mug-wort and we know from Dr Gejvall's identifications of animal remains that stock-raising played an important part in the economy. The peasants relied mainly on cattle, but sheep were pastured in considerable numbers. Pigs were also kept, though in relatively small numbers, and there were also dogs and chickens. In addition the peasants possessed herds of horses of the Gotland russ race, but these fended for themselves in the forest and were only rounded up in the autumn so that likely colts could be singled out for use about the farm. Gejvall's painstaking investigation of the material, and in particular his analysis of the abrasion of teeth, has thrown welcome light on livestock management. So far as cattle and sheep are concerned he found that, as usual, a large proportion had been killed off while still young. Of more interest is his demonstration that adult cattle were slaughtered indiscriminately as required, whereas sheep were apparently killed at regular intervals, probably in the autumn at the time of the wool-shearing. In the case of horses, the young foals were allowed to run free with the herd and there is no evidence that any below the age of $1\frac{1}{2}$ were killed. Horse-meat was evidently very popular at Vallhagar and adults were taken as they were needed ; on the other hand the number of adults slaughtered at over 15 and even over 20 years of age shows that those selected for farm work were allowed to live on as long as they were useful. The cattle were free to graze in the woods and on stubble, but during the winter they were kept in stalls, accommodated either at one end of the house or in separate byres. To judge from the iron scythes found in the excavations hay was an important element in their fodder. Doubtless much of the milk was drunk, but pottery strainers of broad bottle-like form with open bases argue that some of it went to make cheese—milk curdled with calf-rennet would be poured in by the neck of the strainer, standing on a wooden base and the whey would then be squeezed out through the holes in the wall by a weighted lid.

It is only natural that the excavations should have thrown a clear light on the actual farms in which these Gotland peasants lived and worked during the Migration Period. The buildings are of a type of which some 1400 examples are known from the island, about 35 (other than those from Vallhagar) having been excavated. All are basically rectangular in plan, though usually with rounded corners and occasionally with slightly convex side walls. Owing to the difficulty of spanning the roof the houses do not exceed 7.5 m. in width, even though ranging up to as much as 62 m. in length. They have a characteristically aisled plan, the roof being carried on timbers supported by pairs of posts set in parallel rows fairly close to either wall. The way in which some of the roof timbers have survived in carbonized form in burnt out houses suggests that they carried turf sods and to judge from finds of fired daub the roof timbers themselves were coated on the inside with clay. The walls were from one to two metres thick and were built of earth with stone facings. The maximum height of any surviving wall is 1.3 m., but it

is likely that originally they were rather taller, as is suggested for instance by the presence of a vertical loom close to the wall of one of the Vallhagar houses (PLATE II). In some cases the walls of the Gotland houses stood only to one course, and it may be that they were sometimes built up from turf sods or possibly by timber ; one has to remember that the walls of such houses had merely to serve as screens, since the weight of the roof was born by the posts. It is a further characteristic of the Gotland houses, serving to differentiate them from those on Öland and in West Norway and Jutland, that they were normally

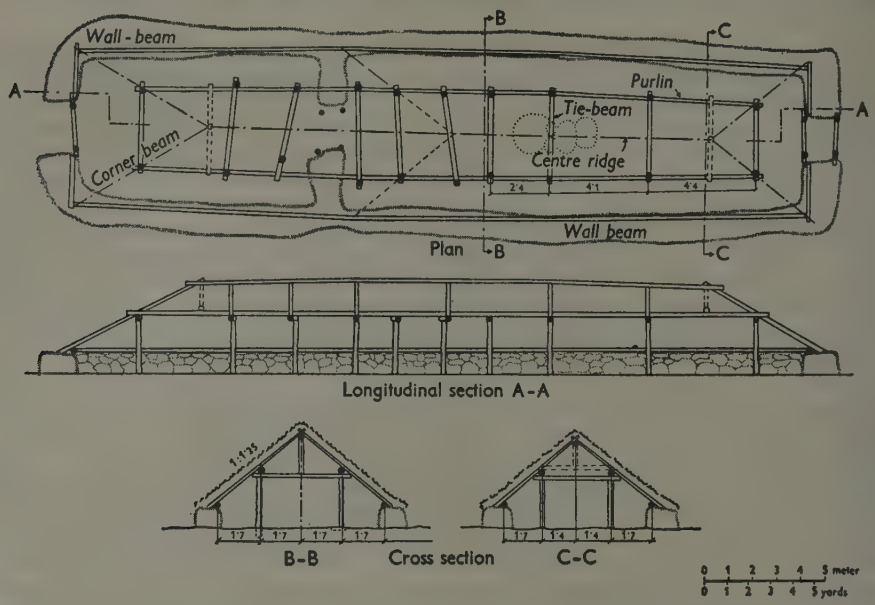

FIG. 1. PLAN AND SECTIONS OF A BUILDING OF THE MIGRATION PERIOD AT THE SETTLEMENT OF VALLHAGAR, GOTLAND, SHOWING THE PROBABLE METHOD OF CONSTRUCTION
after R. Lundström

entered, not from the side, but from the gable end. The areas immediately outside the entrances were paved and the doors themselves were well made with timber frames and sills. The floors of the stables were of natural soil, but the parts of the houses used for human occupation were made of intentionally laid clay. The fire-place was sited on the central axis, as a rule near the middle of the house, and—unless the daub mentioned in connection with the roof timbers was really part of a chimney cowling—smoke presumably found its way out through a simple hole in the roof. As in so many peasant communities fire was an ever present source of destruction and it is thanks to this that so many details have been recovered about the wooden structure of the Vallhagar houses. In addition to roofing timbers and doorways there is evidence from house 7 that the inner face of the walls was panelled in wood.

Finds of iron axes, awls, chisels and knives show that wood-working and carpentry were important crafts and it seems fair to assume that the peasants built, repaired and

equipped their houses largely from their own resources. So far as women were concerned spinning and weaving were probably the most important crafts. The importance of sheep and the fact that they seem to have been slaughtered seasonally suggests that wool provided the main fibre for the textile industry. That weaving was a domestic craft is strongly suggested by the occurrence of traces of an upright loom, including not merely the socket-holes but a substantial part of one of the uprights in carbonized condition, together with clay loom-weights, against the inner wall of the living-portion of house 7, as well as by the fact that loom-weights were found in each of the Vallhagar dwelling-houses.

Although doubtless self-sufficing so far as food was concerned, the Vallhagar community was not by any means a self-contained economic unit. Indeed there seems to be no evidence that the Vallhagar people even made their own pots and it is doubtful whether they made their iron tools in the first instance, though it is true there is some slight trace of iron-working in the form of a few pieces of slag. It is at least possible that the crockery and many of the tools used on the Gotland farms were made at a few centres and exchanged for farm produce or textiles. But further than this, it is certain that some of the most important raw materials, such as metals, as well as certain artifacts in daily use, were imported from overseas; among these latter may be counted glass beads and beakers from the Vallhagar settlement, objects of West European origin traded probably from the mouth of the Rhine. As Klindt-Jensen points out there is no need to wonder what the Gotlanders offered in exchange, since they could well have paid for their imports from the profits of commerce for which the island was so admirably situated.

It is not difficult to suggest what a wealth of documented information the Vallhagar excavations have provided about life on the Gotland farms of the Migration Period. But what have they told us about the history of the settlement, its foundation, duration and end? The great majority of the finds from the houses date from the Migration Period (A.D. 400–550) and it is reasonably certain that the settlement came to an end towards the close of the first half of the sixth century. A few finds from the southern part of the site date from the Early Roman Iron Age (0–A.D. 200), but it is significant that no finds from the intervening 3rd and 4th centuries have been recovered from the site. The most likely conclusion is that, whereas the settlement in its surviving lay-out dates from the Migration Period, previous versions must have existed close to and possibly in part overlapping with it. That this is correct is suggested by two circumstances. For one thing the evidence disclosed by excavation is consistent with a short life for the settlement of which the plan was recovered. In one instance a building overlies another at right-angles and there is evidence that some were enlarged, one of them (no. 18), on two occasions, to accommodate more cattle; but in general there is no sign of wholesale changes of plan and such modifications as there are are concentrated in the southern part of the settlement, suggesting that it began there and only later spread northwards. Then there is the testimony of the three cemeteries. There is little doubt that the people who began to construct their stone-built houses in the southern part of the site buried their dead in the South Cemetery and that they continued to do so until the settlement was abandoned. Grave goods from the cemeteries as a whole suggest that there had always been a community of peasants in the immediate area since an early phase of the Late La Tène period, to which use of the Middle Cemetery was apparently confined. Then in the later part of this period the South Cemetery first came into use. During the Early Pre-Roman Iron Age (0–A.D. 200), on the other hand, the South Cemetery went out of use and burials were made in the North Cemetery, before coming back to the South one at the time of the Vallhagar settlement. Finally, apparently after

an interval, the successors of the peasants who lived at Vallhagar reverted during the Vendel Period to the North Cemetery.

All this is consistent with the view that we have to deal with the history of a single community shifting the site of its settlement and at each move changing its place of burial, though on occasion returning to cemeteries in previous use. If this is so, it means that settlement during the Iron Age down to and including the Migration Period on Gotland was only fixed in the sense that the great family groups did not, to judge from the cemeteries, move any great distance. Why should communities have uprooted themselves so frequently? In discussing possible causes for the abandonment of the site Klindt-Jensen asks whether and how far the mode of life of the Vallhagar peasants contributed to a worsening in the condition of their lives. He goes on to make the point that the choice of sloping ground, in the presumed interest of drainage, entailed impoverishment through erosion of the thin capping of humus and points to Helbaek's statement (p. 690), that 'judging by the small size of the grains as well as of the weed seeds, especially of the species which normally prefer humid ground, the ploughland of Vallhagar seems to have been rather poor and dry'. There is no sign that conditions worsened for stock-raising—on the contrary extension of the stable-ends (e.g. of house no. 18) argues for a growing reliance on herds, possibly to compensate for a poorer return from crops. Even if a decline in the returns from corn-growing may have led this particular group of peasants to shift their fields and settlement in the past, it would, as Klindt-Jensen well recognizes, be difficult to argue that this alone could be held to account for the widespread and apparently sudden abandonment of farms on Gotland at this time, even if it offers some clue to the intermittent nature of land-occupation during the Iron Age as a whole.

The final abandonment of Vallhagar has indeed to be considered in relation, not merely to the fate of other analogous settlements on Gotland, but also to what is known of events on Öland and Bornholm. A feature common to these three Baltic islands is the deposition, abruptly terminated, of rich hoards of Roman coins towards the end of the Migration Period: on Öland somewhere between 480–490, on Bornholm between 475–525 and on Gotland between 500–550. Of the various explanations offered Stenberger prefers war, assuming in this context swift piratical raids, which he thinks would have been all the more effective from the recent introduction of the sail to the Scandinavian north. In this connection it is significant that many of the Gotland buildings examined by excavation proved to have been destroyed by fire: it is true that peasant houses are notoriously liable to this danger, but the discovery in one of the Vallhagar houses (no. 11) of the remains of a man burnt to death and the finding of gold coins and trinkets in a number of analogous structures investigated on Gotland are hardly consistent with the peaceful abandonment of accidentally burnt homesteads. The end of Vallhagar is surely to be linked with violent events in the Baltic Sea, events which found their counterparts further afield in Britain and Frisia.

It remains to observe that the liberal ideas, which attracted workers from so many nations to the excavations and which welcomed so many contributors to the publication, have extended to the editing of these two fine volumes. Greater rigour, by eliminating repetition and imposing the director's point of view, could materially have reduced both the bulk and the cost of the Report, while at the same time enhancing its immediate impact on those who consult it. Yet, as we well know. the ruthless editing of excavation reports by masterful directors, may exact its own price. There is much to be said for being allowed to assimilate evidence presented from several and inevitably to some extent conflicting points of view. This has to be paid for, but in a baser coin than truth.

The Isle of Aeolus

by E. D. Phillips

AMONG the adventures of Odysseus described in the *Odyssey* one of the least favourable to ancient or modern attempts to make a geography of his wanderings is traditionally his visit to the isle of Aeolus, who bound the winds for him in a bag. The famous geographer Eratosthenes said of the whole problem: 'It will only be discovered where Odysseus' wanderings lie when the cobbler is discovered who stitched together the bag of the winds'.[1] Others have not failed to point out that Homer makes it a floating island anyhow, as if he were determined that no one should find it[2], and that the procedure of tying the winds in a bag is a piece of magic, known in practice or recorded in folk-lore in too many parts of the world for a definite location to be possible[3].

But in recent times archaeology has begun to make it reasonable to see a core of truth in the wanderings as described by Homer, and as located by later Greek tradition, which may be based on material as old as Homer's. The non-Homeric tradition is not without its value, for it at least shows what the colonists of classical times thought when they reached Sicily and the western Mediterranean. This tradition can be combined with the latest archaeology to throw some light on Homer, even in the case of Aeolus.

There are at least three figures in Greek legend called Aeolus; the first the ancestor of the Aeolian Greeks, connected with Thessaly, the second grandson of the first and connected with Thessaly and Boeotia, the third the Aeolus of the *Odyssey*, who is sometimes confused or identified with one of the others. It is naturally the third who concerns us, but his links with the others may have some significance[4].

In the tenth book of the *Odyssey*[5] Odysseus and his companions arrive at the island of Aeolia, the home of Aeolus son of Hippotas, friend of the immortal gods. It is a floating island; round the whole of it is an unbreakable wall of bronze, and the rock runs sheer upward[6]. Aeolus lives in great luxury with his wife and his six sons, who are married to his six daughters. He entertains Odysseus and his men for a whole month, and then sends them homeward with the gift of an oxhide, in which he has bound the paths of the blustering winds. Zeus made him steward of the winds, to still or rouse whichever of them he chose. Aeolus puts the bag of hide aboard Odysseus' ship and binds it with a silver cord, so that not even a breath shall escape, except Zephyrus, the west wind, who is left to blow the ship home. Odysseus himself manages the sheet of the sail for nine days until he comes within sight of Ithaca. Then in his weariness he sleeps, but his companions open the bag to see what treasure is inside, and let loose a storm. The ship is blown back to the isle of Aeolus, who this time dismisses the wanderers roughly as hated by the gods.

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[1] Quoted by Strabo 1, 2, 15.

[2] E.g. Wilamowitz, *Homerische Untersuchungen* (Berlin: Weidmann, 1884), 164.

[3] E.g. Reinhold Strömberg, *The Aeolus Episode and Greek Wind-Magic* (*Symbolae Philologicae Gotoburgenses: Göteborgs Högskolas Årsskrift*, LVI, 1950: 3, 17–84).

[4] For the details, see Roscher, *Mythologisches Lexikon*, *s.v.* 'Aiolos' or P. Grimal, *Dictionnaire de la Mythologie Grecque et Romaine* (Paris: Presses Univ. de France, 1951). *s.v.* Éole.

[5] 1–79.

[6] 3–4 πλωτῇ ἐνὶ νήσῳ· πᾶσαν δέ τε μιν πέρι τεῖχος χαλκεον, ἄρρηκτον· λισσὴ δ' ἀναδέδρομε πέτρη. V. Bérard in l. 3 reads δ' ἔχε 'and enclosed'.

That is the famous story, in which many details can be matched from folklore, and it certainly sounds fabulous enough. Aeolus appears to be human, in spite of his powers and privileges, but his island appears to be wholly imaginary, and it has been suggested that it and other islands in the *Odyssey* belong to the world of the dead. Yet, as Aristarchus[7] said, it is not the only floating island in Greek legend. Delos was said to have floated about the Aegean until Apollo and Artemis were born on it, and the Symplegades or Cyanean Rocks at the entrance of the Euxine were a floating threat to the Argonauts; yet both are real enough. In the Homeric description of Aeolia Victor Bérard apparently took the bronze wall and the sheer rock to be the same thing[8], but I prefer to distinguish, as A. B. Cook does[9], between the rock and a bronze wall which ran round the top of it. G. Germain[10] also distinguishes between a coast where landings could be made, and a circuit of bronze wall a few yards inland; his comparison with other supernatural dwellings of bronze[11] is of course in point, and so is his claim that Aeolus lives like the gods or the blessed. But I cannot accept the hide as a pair of bellows or Aeolus as a royal smith[12].

We come now to the later tradition, which places the home of Aeolus in the Lipari islands, north-west of the Straits of Messina. This is one of many locations for adventures of Odysseus which are probably due, in their present form, to the Chalcidian Greek colonists of Sicily and Southern Italy. The Lipari Islands were called Aeolian (Αἰόλου νῆσοι, Αἰολίδες, *Aeoliae*) throughout classical antiquity, and in Italian are still known as *Le Isole Eolie*. They are Vulcano (Hiera Hephaestu or Thermessa), Lipari (Lipara, earlier Meligunis), Salina (Didyme), in line from south to north, Panarea (Euonymus) and Stromboli (Strongyle) to the north-east, and out westward Filicudi (Phoenicodes or Phoenicussa) and Alicudi (Ericodes or Ericussa). The only fully active volcano is now Stromboli, but Vulcano was active in ancient times and has been so intermittently for a long period since. The earliest references to them as the home of Aeolus are not in any extant poetry, but in Antiochus of Syracuse[13], one of the earliest historians of the west, and in Thucydides[14], who perhaps uses him, both belonging to the 5th century. But they, and such later writers as Diodorus and Strabo and the commentators on Homer, are likely to be using a tradition at least as old as the Rhodian and Cnidian colonization of Lipari about 580. The most complete form of this later tradition is found in the Sicilian Diodorus.

Diodorus says[15] that the islands were uninhabited in ancient times, but that later Liparus, son of Auson, a king on the Italian mainland, was overcome by his brothers and

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[7] Quoted by Eustathius 1644. For particulars of other such islands, see A. B. Cook, *Zeus* (Cambridge, 1940), III, 2. Appendix P 'Floating Islands'. There is surely more difference than Cook seems to recognize between islands that floated loose, such as Delos, and others, such as Rhodes, which rose from the bed of the sea, for even in ancient times it would be seen that volcanic or seismic action could produce the latter in the course of nature. But the ancients seem to have connected this action with both kinds of island.

[8] *L'Odyssée, Poésie Homérique* (Paris: Les Belles Lettres, 1933), II, 34, where he translates 'une côte de bronze, infrangible muraille, l'encercle toute entière'.

[9] Op cit. III, 1, 106.

[10] *Genèse de l'Odyssée* (Paris; Presses Univ. de France, 1954), 155.

[11] Op cit. 154–78. Cf. D. E. W. Wormell 'Walls of Brass in Literature' (*Hermathena*, LVIII, 1941), 116–20.

[12] Op. cit. 182–4. But it is more plausible to make him in origin a priest-king, as Germain does also, op. cit. 185–9.

[13] Quoted by Pausanias, X, 11, 3. [14] III, 88, 1. [15] V, 7.

fled to Lipara, where he settled. When Liparus was old, Aeolus the son of Hippotas arrived with some companions[16], married his daughter, and eventually became king of a state which included his own followers and the natives on equal terms. This is the Aeolus to whom Odysseus came. He was pious, just and kind to strangers. He introduced seafarers to the use of sails and learned by long observations of the signs from the volcanic fire to predict accurately the local winds. Because of his piety he was called friend of the gods.

Eustathius in his commentary on the *Odyssey* explains that by his success in predicting an easy or a difficult voyage Aeolus got the reputation of controlling and binding the winds, and that according to some he could forecast them for three days in advance by observing the exhalations, flames and smoke from the craters. He could also give warning of difficult currents by the Straits of Messina[17]. The details of volcanic phenomena he got from Strabo, who mentions them in connection with Vulcano as real guides to the weather and as the origin of the myth of Aeolus[18]. Some centuries earlier Aristotle, describing an eruption of Vulcano, explained the rumblings by the action of the wind from beneath the earth, which the sea prevents from escaping[19]. This, and the less clear reproduction of it in Strabo, are clearly a more scientific version of Virgil's account of the cave of the winds in Aeolia. There Aeolus is portrayed as a frankly supernatural being, who was appointed to rule the rebellious and murmuring winds in a vast cavern, and enjoys dining rights with the gods[20].

The account preserved by Diodorus shows clear traces of an attempt to reduce the extravagances of fable to a credible tradition, and will be condemned by some as a tedious and dishonest rationalization. But it has its importance, as will now appear.

Early in the present century Victor Bérard, after studying the problem at home for some time, tried, with more success than is often allowed, to track down Odysseus by boat about the Mediterranean. He believed that the story of the wanderings was based on genuine reports of navigation from Phoenician sailors, which were taken over as oral tradition by the Greeks and in the hands of their poets worked into romance before the classical age of colonization began in the 8th century[21]. Naturally he was much taken with the placing of Aeolus in the Lipari Islands, and among these he preferred to identify his actual home with Stromboli[22]. This, he argued, may originally have been the most important centre for sailors, though later it was replaced by Lipari, next to Vulcano which had the other great volcano. According to him the Homeric description of the sheer wall of rock applies to the southern half of the round island of Stromboli, where on both sides of Punta Lena the cliffs rise steeply to the walls of the crater, and even show here and there a metallic gleam due to deposits of volcanic iron[23]. The northern side of the island is approachable from the sea, and has a beach of black sand, and Homer does mention a landing place somewhere. He adds that the floating pumice, which abounds now by

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[16] From Metapontium, he says at IV, 67, 6, where he makes him identical with the second Aeolus and seems to be using a different version of the legend, though still an Italiote Greek one.

[17] 1645. [18] VI, 2, 10. [19] *Meteorologica*, II, viii, 367a. [20] *Aeneid*, I, 50–80.

[21] See, for instance his two chief works on this subject, *Les Phéniciens et l'Odyssée*, 2 vols. (Paris: A. Colin, 1902–3, reprinted 1927) and *Les Navigations d'Ulysse* (Colin, 1927–9). I refer here to the first, as he did not change his identifications. The excellent photographs in his posthumous volume, *Dans le Sillage d'Ulysse* (Colin, 1933) are well worth consulting.

[22] *Les Phéniciens*, II, 183–208.

[23] Op. cit. 187, quoting Spallanzani, *Voyage des Deux Siciles* (tr. G. Toscan, Berne, 1795–7), II, 73–7, not otherwise known to me.

Lipari, may earlier have been found by Stromboli, and have given rise to the notion of a floating island (PLATE III, A).

So far his suggestions of a purely geographical kind are convincing enough. More fanciful is his notion that Aeolus in his two moods actually represents the behaviour of the volcano, quiescent with whitish smoke under northerly winds, roaring and darkly smoking under southerly. This behaviour, as we saw, is reported by Strabo for Vulcano ; the same phenomena, and the same belief in their meaning for future weather, are quoted for modern times by Bérard for Stromboli from the reports of Spallanzani, a traveller of the 18th century[24].

Bérard was long regarded as an eccentric, and no one would now take seriously his Phoenician etymologies for the place-names of the wanderings. But his claim of a Phoenician source for the deep-sea yarns of the *Odyssey* had, when he made it, much to recommend it. The Phoenicians were then the only people widely known to have explored the west before the classical Greek colonists first reached it in the 8th century and learned to know it for themselves. This the Greeks could hardly have done when the fables first arose. In so far as the *Odyssey* contains genuine information, he could offer a real basis in geography on which it could have been elaborated, and also a historical channel by which such knowledge could have reached the Greeks.

But it always seemed odd that the Greeks, or any seafaring people of the Aegean, should have been dependent on the alien Phoenicians for their information. One natural explanation was to date the *Odyssey* after the earliest voyages of the classical colonists, who would then be responsible not only for the fancies but for the facts. This Rhys Carpenter[25] and others[26] still do, but it seems unsatisfactory when the narrative has such an ancient flavour. If the *Odyssey* is earlier than the colonization, a Phoenician source is still odd for the material of the wanderings when the Homeric poems in general so clearly aim at portraying the life of the Mycenaean Age of Greece, which ended in the 12th century. The Phoenician voyages are now mostly thought to have begun at least a century later, and the earliest traces of them are not found in eastern Sicily, Southern Italy, or the Lipari Islands.

But while Bérard was elaborating his theory, Orsi and others were laying bare in Sicily, and here and there on the east coast of Southern Italy, Minoan and Mycenaean objects which placed it beyond doubt that there was direct contact between these countries and the Aegean centuries earlier than the classical colonization[27]. The Mycenaean material, which chiefly concerns us, extends backwards in time from a late date in the 12th century or below it, which would correspond with the age described in Homer, to the 14th century and earlier, when the Mycenaean culture was wealthier and more flourishing and had a wider geographical horizon. The objects include greyish and yellowish painted pottery with characteristic designs in brown or black, necklaces and beads, an occasional bronze vessel and sometimes long bronze swords. Most of them can be seen in the Museo Nazionale at Syracuse. They come from such sites as Thapsus, Plemmyrion, Cozzo del Pantano and Matrensa, near Syracuse.

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[24] Bérard, op. cit., II, 192–6, and Spallanzani, op. cit. II, 10–12, quoted by him.

[25] *Folktale, Fiction and Saga in the Homeric Epic* (University of California Press, 1946).

[26] E.g. É. Mireaux, *Les Poèmes Homeriques et l'Histoire Grecque*, 2 vols. (Paris : Hachette, 1954).

[27] For a brief mention of them, see T. J. Dunbabin, *The Western Greeks* (Oxford, 1948) 1–2. Orsi and his colleagues wrote numerous reports in the *Bollettino di Paletnologia Italiana* from 1889 onwards.

Sicily is a large, attractive, and archaeologically important island, but since 1946 the centre of interest for this class of finds may be said to have shifted to the Lipari Islands, in spite of their volcanic nature, rocky ground and remote situation. This change is due to the discoveries made by Professor Bernabò Brea, Superintendent of Antiquities at Syracuse[28]. In the complete sequence of cultures, extending from the neolithic to recent times, which has been revealed on the citadel at Lipari (PLATE III, B) were found layers containing Minoan and Mycenaean pottery which corresponded to the finds in eastern Sicily, lying among local ware of the early Bronze Age, clumsy incised vessels, monochrome grey or chestnut-coloured, and other pieces which must have come from the Italian mainland. Of the other islands, Filicudi yielded some of this material at Capo Graziano, which even went back to the earliest Mycenaean phase of the 16th century. On Panarea there was much more, from the site of the prehistoric village of oval stone-walled huts on the precipitous headland of Punta Milazzese. A few pieces have been found on Salina, but none to the best of my knowledge elsewhere. On Stromboli and Vulcano there is always the difficulty that volcanic deposits may have overlain ancient remains. Thus the Lipari Islands must have been known to Mycenaean Greek sailors even from the 16th century[29].

Two further points of interest have some bearing on the myth of Aeolus. Lipari abounds in obsidian, which occurs in no other place nearby as a natural product. But pieces of obsidian have been found on many prehistoric sites about Italy, and must have been imported from Lipari. Before the age of metals obsidian was in great demand for cutting tools because of the fine edge obtainable by chipping. The neolithic Liparaeans must have done a brisk trade in it, some no doubt in their own sea-going craft, whatever those were, which were first used to reach the islands late in the third millennium, and some probably at home with visiting seafarers. This would have lasted until obsidian was superseded by metal, as it had been when the Minoans and Mycenaeans reached these waters. In the neolithic period obsidian would have been a valuable means of exchange for getting necessities which were scarce or absent on the islands, and even later the tradition of seafaring would remain. The natives would for centuries have had every reason for becoming expert on the local weather and currents, and for being amiable to visitors. They may have originated the belief that the volcanoes' behaviour was a sign of coming weather. It is not impossible, though it cannot be proved, that they, like so many others, practised the magical rite of confining the winds in a bag of hide, and had no sympathy for anyone who spoilt it when they had used it on his behalf. Their traditional knowledge would surely have been useful to the Mycenaean sailors who went on northward to such places as Cumae and the island of Ischia and Vivara, where Mycenaean

[28] These finds have already been mentioned by the Editor, who gives a general account (with frontispiece) of the excavation at Lipari and of Professor Brea's new museum just by the site in vol. XXIX, no. 16, Dec. 1955, pp. 194–5, so that their importance should be well known to readers.

[29] Brea's publications on the Liparaean finds include: 'Civiltá preistoriche delle isole eolie' (*Archivo de Prehistoria Levantina* III (1952), 69–93 with plates); 'Villagio dell' etá del bronzo nell' isola di Panarea' (*Bollettino d'Arte del Ministerio della Publica Istruzione* (1951), 31) and 'La Sicilia prehistorica y sus relaciones con Oriente e con la Peninsula Iberica' (*Ampurias* XV–XVI (1953–4), 137–213) especially 176–205 on the Aegean connections of Sicily and the prehistory of the Lipari Islands. Capo Graziano yielded LH IA pottery (*Ampurias* loc. cit. 182). Some signs belonging to an Aegean script occur on a few potsherds, but are probably no more than potters' marks. See Brea 'Segni grafici e contrassegni nelle ceramiche dell' etá del bronzo nelle isole eolie' (*Minos* II (1952), 5–28).

potsherds have also been found[30]. The islands would have been a convenient stopping-place for voyagers passing through the Straits of Messina to look, perhaps, for metal along the Italian coasts[31].

The other point is the immigration from the Italian mainland indicated in the legend as preserved by Diodorus. This has been confirmed by Brea for the end of the Liparaean Bronze Age after the Aegean connection had been broken off by the collapse of the Mycenaean culture. Pottery of a type known on the mainland as Apennine was found in the layers immediately above that containing the Mycenaean sherds. This has no connection with contemporary Sicily so far as is known, except at Milazzo, where a site has produced some of it; and Milazzo is still the nearest port for these islands. It is larger and more abundant, and differently shaped both from Liparaean native ware of earlier date and from any Aegean imports. The surface is usually a blackish impasto, and a marked peculiarity of some cups and dishes is a handle shaped into two horns. There seems to be no sudden break, which again confirms the tradition of peaceful arrival and mingling[32]. The only difficulty in fitting the tradition in Diodorus to this evidence is that Aeolus, who in Homer should represent the earlier inhabitants, is in Diodorus made to arrive after the new immigrants from the mainland, at a time when there were no more Mycenaean Greeks in these waters to find him.

Thus the ancient location for Aeolus is in this sense confirmed by the discovery of one more western point of contact with Mycenaean Greece, and the persistent ingenuity of Victor Bérard has in this case not been in vain. I cannot find that Victor Bérard took much notice of this branch of archaeology, but at least his son, Professor Jean Bérard, has seen much of his father's geographical argument confirmed by it[33].

Whether Stromboli or Vulcano should be specially connected with Homer's Aeolia is hard to say, but Aeolus can appropriately be linked with these islands and with the confusing array of islets and precipitous isolated rocks that rise from the sea between and round them. The weird colours of the volcanic formations in many places might look metallic. I myself on the steamer going northward from Lipari saw a reddish metallic gleam high up on the south side of Stromboli. The lava flow on the Sciara del Fuoco was scarcely visible when I passed in the evening, and I have since wondered whether the gleam could have been a reflection from some such deposit as Spallanzani mentions. The most precipitous islet of all, with really vertical sides, is the massive almost drum-shaped, Strombolicchio, which no ordinary mortal climbed until steps were cut for a modern lighthouse. Remote memories of all these islands, and of the natives as they would have been in the Bronze Age, might, in the ignorant fancy of the post-Mycenaean Dark Age of Greece, have been combined with folklore and transmuted into the Homeric myth of Aeolus and his floating isle.

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[30] See G. Buchner and E. Rittmann, *Origine e Passato dell' isole d'Ischia* (Naples: Macchiaroli 1948), 36. I was told by Mr Dunbabin that a Mycenaean sherd had been picked up on the beach near Cumae.

[31] I have touched on this matter on pp. 63–4 of my article 'Odysseus in Italy' (*Journal of Hellenic Studies*, LXXIII (1953), 53–67).

[32] See Brea 'Civiltá preistoriche' 12–15 and 'La Sicilia préhistorica' 201–3 for full details. This Ausonian culture of Lipari, as Brea calls it, continues in degenerate form to the time of the classical Greek settlement.

[33] See, for instance, his review of Germain's book in *Révue des Études Grecques*, LXVII (1954), 505–6, where he insists on the importance of Brea's discoveries and is clearly thinking of his father's work.

Nero's Golden House

by J. Ward Perkins

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DOMUS AUREA, the Golden House. The name conjures up a vision of splendour, which even a visit to the gloomy vaults beneath the southern slopes of the Esquiline cannot altogether dispel. All too little has survived ; and unless there are surprises in store for us still below ground, it seems unlikely that we shall ever know very much more about it from the actual remains than we do at present. But with each year that passes fresh knowledge accumulates in other, related fields. Vision shifts and perspectives change, and every now and then it becomes worth while once again to take stock, to ask which of the old problems still matter, and to see what are the new ones that have now to be considered. The present article, which lays no claim to originality, is an attempt to present and assess the present state of scholarly opinion about what must, by any computation, be held to be one of the most important buildings in the whole long history of classical architecture.

Our earliest and most reliable account of the Golden House is that of Tacitus (*Annals*, xv, 38–43), who is describing events that had taken place in his own boyhood, and who, throughout his description of the great fire of A.D. 64 and of the events that followed on it, is at pains to distinguish between hearsay and what he believed to be the facts. The fire, he tells us, began in the storerooms beside the Circus Maximus, and spread rapidly and disastrously through the crowded slums in the centre of the old town. Nero, at the time, was absent in his villa at Anzio, and ' did not return to the city until the flames were approaching the palace (*domus*) which he had built to link the Palatine to the gardens of Maecenas ; nor could they be stayed before the Palatine, together with the Palace and all round it, had been destroyed '. He goes on to describe the progress and eventual extinction of the fire, and gives some account of the appalling havoc that it left in its train : three of the fourteen Regions of Rome gutted, and seven more badly damaged. ' But Nero took advantage of his country's disaster to build a palace (*domus*) the marvels of which were not so much to be jewels and gold, the familiar commonplaces of luxury, as fields and lakes, a contrived solitude of woods and vistas and open pastures. The engineers in charge of the work (*magistris et machinatoribus*) were Severus and Celer'.

Suetonius not only wrote twenty or thirty years after Tacitus, but is an altogether less reliable source ; he would have made an excellent gossip-columnist. Nevertheless his is the fullest and most explicit account that we possess of the Golden House, and for that reason it is worth quoting in full (*Nero*, 31). ' He built a palace stretching from the Palatine to the Esquiline, which at first was called the Domus Transitoria (i.e. the palace linking the two estates), but after it had been burnt and restored was called the Domus Aurea. The following facts will serve to indicate something of its size and luxury. In the vestibule there was a colossal statue of Nero, 120 feet high ; and so spacious was it that it had a triple portico a mile long (*porticus triplices miliarias* : the exact significance of the phrase is not clear, but it presumably describes some form of covered walk, like the so-called " Percile " of Hadrian's Villa). There was an artificial lake to represent the sea, and on its shores buildings laid out as cities ; and there were stretches of countryside, with fields and vineyards, pastures and woodlands, and among them herds of domestic animals and all sorts of wild beasts. Elsewhere all was overlaid with gold, and bright with jewels and mother-of-pearl. There were dining-halls whose coffered

ivory ceilings were set with pipes to sprinkle the guests with flowers and perfume. The main dining-hall was circular (*praecipua cenationum rotunda*), and it revolved constantly, day and night, like the universe (*quae perpetuo diebus ac noctibus vice mundi circumageretur*). There were also salt-water baths and baths of sulphur-water '. In another passage (chapter 39) he records the comment of some anonymous predecessor of Pasquino :

Roma domus fiet : Veios migrate, Quirites
si non et Veios occupat ista domus

(Rome is becoming a House : Romans, away to Veii—unless the House spread over Veii too).

To supplement these explicit accounts we have several barely veiled references in a letter of Seneca (*Epist.*, XIV, 2), which must have been written very shortly before his suicide in 65 ; the phraseology is interesting for its emphasis on the mechanical and engineering aspects of the work (7 : *machinationes tectorum supra tecta surgentium et urbium urbes prementium* ; 15, *versatilia caenationum laquearia*). The elder Pliny, who died in 79, is disappointingly sparing of information : a passing reference to the gold (XXXIII, 54), another to the size of the estate (XXXVI, 11), and some scattered comments on the works of art contained in it (XXXIV, 84 ; XXXV, 120 ; XXXVI, 37) ; that is all. By far the most vivid of the contemporary allusions is that of Martial (*de spectaculis*, 2), writing in 80, when a great deal of the palace had already been dismantled. The poet stands at the crest of the Sacra Via and surveys the Flavian Amphitheatre (the Colosseum) and the Baths of Titus, the visible tokens of the new dynasty's reversal of Nero's hated policy. ' Here, where the glittering Colossus scans the heavens, and scaffolding rises high in the Middle Way, here stood the gleaming palace (*atrium*) of a savage despot, and the whole of Rome was comprised within a single House. Here, where the far-seen Amphitheatre raises its august bulk, was Nero's lake ; here where we gaze in wonder at the Baths, so swiftly built, a tyrant's estate had robbed the poor of their dwellings ; where the Claudian portico spreads its carpet of shade, even so far did the palace extend. Now, under thy rule, Caesar, Rome is once more her own : what were a master's pleasures are now the pleasures of the people '[1].

What conclusions may we draw from these passages about the opinions of Nero's contemporaries ? For all the references to gold and ivory and precious stones, it is obviously not the extravagance as such of the Golden House that upset them. Tacitus is quite explicit on this point. The display of wealth was, after all, something to which Roman opinion was already thoroughly hardened. For a couple of centuries moralists had been thundering ineffectively against it, and although the Emperor had resources denied to the private individual and could do things on an unprecedented scale, the criticism on this score has a perfunctory ring.

It was not Nero's prodigality, then, that upset contemporary opinion. Nor, to judge once more from the attitude of the classical writers, was it his personal eccentricities. There is, it is true, the suggestion put forward some years ago by L'Orange,[2] that the whole palace was conceived in terms of a deliberate politico-religious policy, adopted by Nero in the latter part of his reign, with the intention of converting the Principate into a theocratic monarchy on the Hellenistic model. The Domus Aurea was to be a sacred

[1] The ' atrium ' here probably refers specifically to the vestibule, whose substructures were later partly incorporated in the podium of Hadrian's gigantic temple of Venus and Rome. The Baths of Titus (for the speed of their construction, cf. Suet. *Tit.*, 7) lay immediately to the north of the Colosseum.

[2] H. P. L'Orange, Domus Aurea : der Sonnenpalast., *Symbolae Osloenses*, 1942 (*Serta Eitremiana*), pp. 68–100 ; id., *The Iconography of Cosmic Kingship*, Oslo, 1953, pp. 28–31.

palace, symbolizing both in form and in name the introduction of a new Golden Age, that of Nero cosmocrator, the new Sun-god, Lord of the universe. In particular, L'Orange pointed out that the Rotunda, with its revolving roof (for that must surely be the meaning of Suetonius' rather compressed phrase), bears so close a resemblance to the descriptions of the revolving throne-room of the 7th century Sassanian king Chosroes II (d. 624), that the two must in some way be connected[3].

This theory has been criticized by, among others, Boethius, by Miss Toynbee, and by the late Martin Charlesworth[4]. There is, they point out, very little evidence for the consistent application of any such orientalizing policy, as distinct from the dabblings of an unstable mind for whom the East had an undoubted fascination, and the flattery of courtiers. Contemporary writers, ever on the alert for such tendencies, convey no hint of any such intention. Moreover, the Rotunda is specifically described as a banqueting-hall, not a throne-room. On the evidence available it may be explained just as convincingly as another instance of Nero's love of mechanical marvels and strange gadgets, on a par with the ceilings that scattered flowers and perfumes, or the collapsible ship on which Agrippina was sent to her death.

In all of this the critics are surely right. As a deliberately contrived expression of religious policy the Golden House fails to carry conviction—if for no other reason than the silence of the ancient authorities on a point which might so justly have drawn hostile comment. Whether, on the other hand, one is justified in rejecting out of hand a connection between the Rotunda and the ideas that were to manifest themselves six centuries later in the throne-room of Chosroes is (as Boethius is careful to point out) far less certain. The common element of mechanical ingenuity is, one may suspect, something of a red herring. Varro's aviary made use of a similar device, relating the shifting of the winds to the movements of the morning and the evening stars ; but nobody has ever suggested that the birds within it had ideas above their station[5]. On the other hand, there is nothing to suggest that there were any moving parts in (to cite a familiar example) the judgment-hall of the Parthian king, as described by Philostratus in the second century A.D., with its dome ' like the heavens, covered with sapphire stars . . . and in the heights are the images of the gods in whom they believe, and they appear golden as if it were from the ether '[6]. The significant feature that links Nero's Rotunda, the domed judgment hall of the Parthian king, the throne-room of Chosroes, and a multitude of related representations in Roman and medieval art (including some of the lost stucco ceilings of the Golden House itself)[7] is the fact that the dome or the canopy set with the symbols of the heavenly bodies has a very ancient association with divinity and kingship, and with apotheosis generally. This association originated in the ancient East and, together with the cosmic, astrological speculation of which it is a part, it early found its way into the religious iconography of the west. Already in the 5th century B.C. we find clear traces of it (in this case the heavenly bodies are missing) on the ceiling of the Tomb of the Monkey at Chiusi ; and by the early Empire it had become a commonplace of the speculative

[3] The hall is described by the Byzantine writer, Kedrenos (ed. Bekker, 412, *Corpus Script. Hist. Byz.*, Bonn, 1838, p. 721 f.). It is discussed by E. Herzfeld, ' Der Thron des Khosro ', *Jahrbuch der preuss. Kunstsammlungen*, XLI, 1920, pp. 1–24 and 103–47.

[4] Axel Boethius, ' Nero's Golden House ', *Eranos*, XLIV, 1946, pp. 442–59; J. M. C. Toynbee, *JRS*, XXXVIII, 1948, pp. 160–1 ; M. P. Charlesworth, *JRS.*, XI, 1950, pp. 71–2.

[5] Varro, *RR* IV, 5, 9. For its significance see pp. 19–20 of Karl Lehmann's fundamental article, ' The Dome of Heaven ', in *Art Bulletin*, XXVII, 1945, pp. 1–27.

[6] Philostratus, *Life of Apollonius of Tyana*, I, 25.

[7] Lehmann, *art cit.*, fig. 28 (after Bartoli).

thought and visual symbolism of the educated Roman world[8]. Once such an idea has passed into the common stock it is very hard to measure its precise impact in any particular case. Nero's architects were assuredly aware of the significance of the motif; and one may believe, if one will, that Nero's own interest in the East was a fact that influenced their choice. But that is very far from claiming that it announced a programme.

The Roman public was no more concerned with high politics than it was with morals. What startled and shocked contemporary opinion was not the luxury of the Golden House; it was not any alien ideas that it may be held to have embodied: it was the ruthless expropriation of the heart of a crowded city to make way for the rustic delights of a private mansion. Suetonius, as so often, manages to obscure the essential point; but Tacitus and Martial are quite explicit. Nero's crime was to build in the middle of the city what would, in itself, have been quite permissible elsewhere. It is as a 'villa suburbana'[9] that we have to judge the Golden House, eccentric in its location and exceptional in the wealth of its fittings and the intricacy of its mechanical marvels, but not essentially different from many another wealthy patrician residence on the outskirts of the capital. One need not labour the point. Most scholars today are prepared to accept what was, after all, the verdict of Nero's own contemporaries. What is worth while, however, is to ask whether, in the light of recent work, there is anything to be said about the way Nero's architects set about the realization of this perverse but grandiose project.

What, we may ask, was the extent of the Golden House? In view of the effect of Nero's expropriations both on contemporary opinion and on the future topography of the city, it is surprising how few writers have bothered to discuss the point. Estimates have ranged from about 125 acres (rather less than twice the size of the Vatican City) to 370 acres (approximately that of Hyde Park); but until recently the only serious discussion has been that of Hülsen, in his edition of Jordan's *Topographie der Stadt Rom in Altertum* (I, 3, 1906, p. 273 f.). Now, in a well documented and persuasive article[10], Van Essen suggests that Hülsen's conclusions, limiting the villa to the Palatine, to the southern slope of the Esquiline (the Oppian), and to the northern fringes of the Caelian, a total of some 125 acres, require substantial revision. In particular, he maintains that it incorporated the whole of the Caelian hill up to the line of the Servian Wall.

The arguments cannot, from the nature of the evidence, be conclusive. But, having regard to the lie of the ground, there is a great deal to be said for Van Essen's contention. The guiding principle in laying out the Golden House was the creation of a self-contained park, an artificial solitude, *rus in urbe*. It is hard to believe that, from the living rooms of the domestic wing Nero would have been content to look across the valley towards private houses barely two hundred yards away, on the slopes above what is now the church of San Clemente. To the north the boundary of the park can be shown to have followed closely the natural crest that lies to the south of the modern Via Cavour and the Largo Brancaccio, a line that would have excluded all view of what lay beyond. To the east and south-east the obvious equivalent boundary would have been the Republican city-wall, or, where this was no longer preserved[11], the high ground along which it formerly

[8] Lehmann, *art. cit.*, passim.

[9] As Professor Van Buren points out to me, the term, though in common archaeological use, is of doubtful ancient authority.

[10] C. C. Van Essen, 'La topographie de la Domus Aurea Neronis', *Mededelingen der Koninklijke Nederlandse Akademie van Wetenschappen, Afd. Letterkunde*, n.s. XVII, 12, 1954, pp. 371–98.

[11] A. M. Colini, *Topografia e Storia del Celio nell'antichità*, 1944, p. 32, accepts Säflund's suggestion that by this date the actual wall had already been demolished.

PLATE I

JERICHO: THE GREAT TOWER OF THE EARLIER PRE-POTTERY NEOLITHIC DEFENCES

facing p. 212

HOUSE NO. 7 AT THE MIGRATION PERIOD SETTLEMENT OF VALLHAGAR ON GOTLAND

Note the stone footings of the walls, the entrances at either end, the two rows of post-holes dividing the house into aisles and the stone slabs near the middle immediately adjacent to the fire-place. The remains of a vertical loom were found close against the inner face of the wall, on a line between the hearth and the tree shown on the right of the photograph

Ph. M. Stenberger

a. STROMBOLI FROM THE SOUTH: THE WALL OF AEOLIA?
Ph. O. G. S. Crawford

b. THE CITADEL OF LIPARI FROM THE EAST
Ph. L. Bernabò Brea

PLATE IV

DOORWAY OF CHURCH OF MARIAM GIMB, GORGORA, ETHIOPIA: *c.* 1630

ran. It is true that the words of Martial (p. 210) can be taken to indicate that the Golden House stopped short at the Temple of Divus Claudius. But it would have been perfectly normal practice for Martial to use the name of the temple to indicate, not the building itself, but the district of which it was the most prominent landmark ; and one has only to stand today where he stood, near the Arch of Titus, and to look across the valley at the church and gardens of SS. Giovanni e Paolo, to realize how natural such a phrase would be in this case. The temple itself, we are told by Suetonius (*Vesp.* 9), ' was begun by Agrippina (i.e. between 54 and 59) but almost entirely destroyed by Nero ', to be completed after Nero's death by Vespasian. This is, of course, the point of Martial's reference ; and, in the context, it is a natural inference that the ' destruction ' by Nero (a characteristic exaggeration, as one can see from the typically late Julio-Claudian rusticated masonry of the surviving remains) was undertaken to make way for some prominent feature of the Golden House ; the great brick nymphaeum built against the north-east flank of the temple-platform is indeed probably a part of this Neronian adaptation[12]. Exactly how far beyond the temple the actual boundary-wall passed we obviously cannot tell ; but Van Essen's suggestion has the merit of making sense on the ground. If he is right, the limits of the Golden House on this side ran approximately across the site of the military hospital on the Caelian, on a line between the churches of SS. Quattro Coronati and S. Maria in Domnica, and so down the slopes beyond SS. Giovanni e Paolo to the south corner of the Palatine.

Tacitus, characteristically, puts the matter in a nutshell. Nero's object in building the precursor of the Golden House, the Domus Transitoria, had been to link his town house on the Palatine with the imperial gardens on the Esquiline—to link his *domus* with his *horti* or, in the phraseology of Renaissance Rome, his *palazzo* with his *villa*. The germ of the idea of the Golden House was already there. What the fire did was to give Nero the opportunity to work out the idea in all its implications.

Fortunately, we are in a position to supplement the scanty evidence of the ancient sources. Apart from the fragmentary remains of pre-64 Neronian buildings on the site of the later entrance porticoes, there are at least two surviving structures that can be assigned with reasonable certainty to the Domus Transitoria. One of those[13], was destroyed to make way for the platform of the vestibule of the Golden House, and was later incorporated within the substructures of the Temple of Venus and Rome. It consists of two barrel-vaulted corridors intersecting at right-angles in a central circular chamber, which was probably domed. The corridors were interrupted by transverse screens of columns, there were white marble basins in the floors, the walls were panelled in precious marbles, the vaults were decorated with mosaic, and the floors paved in *opus sectile* made up of triangles and lozenges of coloured glass paste laid in intricate geometrical designs. From the character and wealth of the ornament there can be very little doubt that this is part of the Domus Transitoria, and the central room, with its combination of curving walls and intersecting, rectilinear vistas, is a valuable and interesting anticipation of the architectural ideas that were to find more elaborate expression a few years later in the Golden House.

The other surviving building is the nymphaeum below the great banqueting hall of

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[12] Ibid., pp. 137–8, 143–7. The water from this fountain may have served to feed a cascade falling to the lake below.

[13] M. Barosso, ' Edificio romano sotto il tempio di Venere e Roma '. *Atti del III Congresso Nazionale di Storia dell'Architettura* (*Roma*, 1938), Rome, 1941, pp. 75–8.

the Flavian palace[14]. This was a garden pavilion recessed into the shallow valley separating the Germalus from the rest of the Palatine hill. It consisted of a series of small, richly-decorated rooms opening off a sunken courtyard, the whole of one side of which was occupied by a fountain, a shallow, concave recess with alternate square and semi-circular niches, and a stage-like frontal, elaborately decorated with columns of green porphyry. Above and behind the fountain, at a higher level, there was a portico. To get some idea of the architectural intention of this remarkable building, though hardly of the wealth and refinement of its decoration, we may compare a building such as Ammannati's nymphaeum in the villa of Pope Julius III, which must surely have been inspired by similar classical models. After the fire, through which it seems to have passed undamaged, it was nevertheless filled in and levelled up, to make way for the structures that immediately precede the Flavian palace. Of these only the foundations remain. So far as we can judge, they seem to have been of a utilitarian character, perhaps a circular cistern, with an adjoining latrine for the use of the palace staff[15].

Of the Golden House, in addition to the domestic wing, there are remains, scattered here and there within the great park, which can with varying probability be assigned to the outlying buildings[16]. Only a very few of these are in themselves preserved well enough to give any clear idea of the structures to which they belonged. On the Esquiline there is the great cistern, the ' Sette Sale ', near the Palazzo Brancaccio, and there are records of richly decorated buildings, found and destroyed in the 15th and 16th centuries, in the vineyards adjoining the church of S. Pietro in Vincoli, and at the foot of the hill towards the Colosseum. On the Caelian there is the fountain already referred to, along the flank of the platform of the temple of Claudius. On the Palatine there is the unfinished circular structure that replaced the pavilion of the Domus Transitoria ; there is a great circular tank, possibly a *vivarium* for the keeping of live fish, built across the site of the Isiac Hall and itself destroyed to make way for the basilica of the Flavian Palace ; and there is the great cryptoportico, almost certainly Neronian, that runs along the south flank of the Tiberian Palace. Last but not least, leading up from the south end of the Forum, on either side of the Via Sacra, there are the fragmentary remains of the great multiple colonnades that led up to the Vestibule, giving to the Imperial palace what it had never had before, and was never to have again, a worthy entrance from the Forum Romanum[17].

None of these remains really conveys any idea of the quality and character of the Golden House. It is to the ancient authorities and to the evidence of similar buildings, both in Rome and in the great estates of central Italy, that we have to turn to fill out the picture. Suetonius' description of the buildings clustering round the lake ' like cities ' (*stagnum . . . circumsaeptum aedificiis in urbium speciem*) puts into words an idea that finds expression in countless Roman wall-paintings ; and it has long been recognized that these paintings depict the actual buildings in the parklands of the wealthy few.

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[14] G. Carettoni, ' Costruzioni sotto l'angolo sud-occidentale della Domus Flavia ', *Notizie degli Scavi*, n.s. III, 1949, pp. 48–65, 76–9.

[15] Ibid., pp. 66–73.

[16] Listed and discussed by Van Essen, op. cit. For the records of earlier discoveries see pp. 137–40 of F. Weege's ' Das Goldene Haus von Nero ', *Jahrb. deutsch. arch. Inst.*, XIX, 1904, pp. 127–244.

[17] For the Neronian Sacra Via, see E. B. van Deman, *Mem. Am. Acad. Rome*, V, 1925, pp. 115–26.

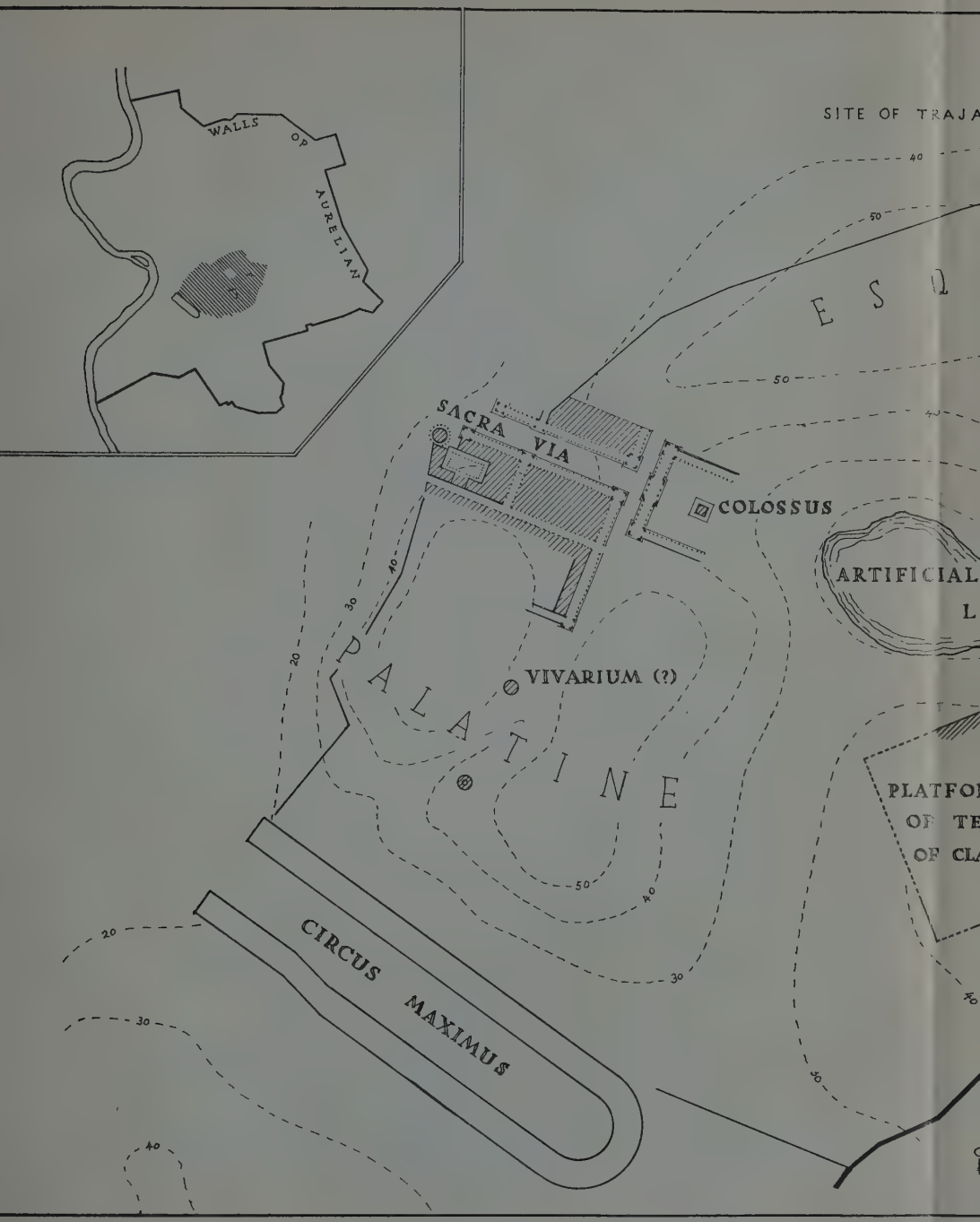

FIG. 1. PLAN OF NERO'S GOLDEN HOUSE AND ITS E

Top left: Plan showing relative size of Nero's Golden House and the city of Rome, as e

after Van Essen

Scenes like those (to take a single, well-known example)[18] in the house of M. Lucretius Fronto at Pompeii, were not extravagant figments of the artist's imagination. They show us the actual lakes, the porticoes, the garden pavilions, the rustic shrines, with which wealthy Romans loved to adorn their gardens. The artificial lake of Nero's own country-house at Subiaco is an excellent instance of the lengths to which they were prepared to go to achieve the proper setting; and from the *horti* of Rome, quarried for their statuary by popes and princes, and finally dismembered by the builders of modern Rome, we have innumerable surviving or recorded examples of the architecture with which those landscapes were adorned—monumental pavilions like the so-called Temple of Minerva Medica in the Licinian Gardens, or the nymphaeum in the Gardens of Sallust; landscaped terraces and fountains like the great exedra in the gardens of the Acilii on the Pincian; exotic pavilions or shrines like the Egyptian building in the same gardens; temples, such as that of Venus of Eryx, in the gardens of Sallust; and endless covered walks and porticoes linking the scattered buildings or serving, like the 'Percile' of Hadrian's Villa or the *porticus miliarensis* of the gardens of Sallust, for exercise. Most of these have now vanished, or else their remains rise sadly and meaninglessly among the back streets of modern Rome. To get a living impression of the sort of effect at which these gardens were aiming, we have to turn to the Roman Villas of a later age. Most of these, too, have now vanished. But in the Villa Aldobrandini at Frascati, or in the Villa Borghese, with its pavilions and fountains, its statuary, its triumphal arch, its rustic shrine (the fountain of Serapis), its Egyptian pylon, its stadium and, in the middle of an artificial lake, an island temple, here at any rate we can still catch a glimpse of the spirit that moved the landscape architects of Imperial Rome.

The major surviving monument of the Golden House is, of course, the domestic wing, a large part of which has been excavated and can be visited today, on the lower slopes of the Oppian, just east of the Colosseum[19]. Like many another of the best-preserved monuments of classical Rome, it owes its survival to having been incorporated within the terraced platform of a later building, the Baths of Trajan. Stripped of its rich fittings and smothered by the enormous foundations of its successor, it is today a sorry travesty of its former splendour, and the impatient visitor may well feel inclined to dismiss the magnificence of the Golden House as a legend, or, at best, as the product of a tasteless display of wealth, an ephemeral assembly of precious objects brought together by an ambitious megalomaniac, without any real artistic quality. Lacking their proper light and colour, the individual rooms seem strangely ill-proportioned, and the only well-preserved paintings, in the service rooms and corridor behind the Imperial suite, bear all the marks of the haste with which the Golden House was built. But one has only to recall the impression that the painting and stuccoes of the principal rooms (then recently uncovered and far better preserved) made on the artists of the late 15th and 16th centuries[20], to realize how wrong such a judgment would be. Works that were admired, studied, and reproduced by Raphael, and by countless lesser masters of his generation, cannot be so dismissed. One must allow for the impact of novelty; and one may suspect

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[18] M. Rostowzew, 'Pompeianische Landschaften und römische Villen', *Jahrb. deutsch. arch. Inst.*, XIX, 1904, pp. 103–26. Most recently discussed by Phyllis Williams Lehmann, *Roman Wall Paintings from Boscoreale*, Cambridge (Mass.), 1953.

[19] Weege, op. cit. For a brief account of the subsequent excavations, see A. M. Colini, *Bull. Arch. Com.*, 1939, *Notiziario*, pp. 191–2.

[20] Weege, op. cit., pp. 165–82. It was from the character of these paintings, first seen and studied in the 'grottoes' of the Esquiline, that the word 'grotesque' passed into the language.

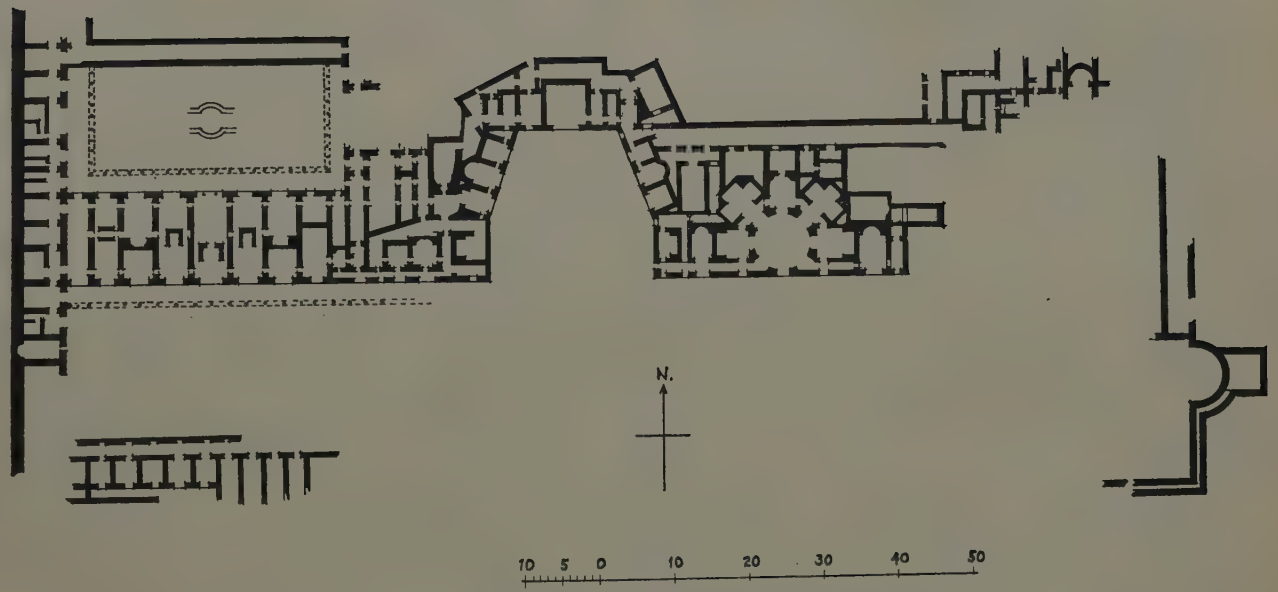

FIG. 2. PLAN OF THE CENTRAL WING OF THE GOLDEN HOUSE
after Lanciani and Lugli

that the painter Famulus (or Fabullus), who had the misfortune to lavish the greater part of his output on the walls of a building so soon to be destroyed[21], was an inspired decorator rather than a great artist. But as decoration, the best of this work, as we see it on the ceiling of the central reception room (the so-called Sala della Volta Dorata)[22] or in the Palatine nymphaeum of the Domus Transitoria, has a quality of elegance and refinement which was never surpassed in Roman art, and which admirably expressed the sophistication of the whole extraordinary building.

For such, seen in historical perspective, it undoubtedly was. There was, indeed, nothing particularly striking in the lay-out, which consists of two wings placed symmetrically about a recessed hexagonal feature (FIG. 2). In front there was a broad terrace, set with porticoes, on the central axis of which presumably lay the main entrance. The two wings were not identical. That towards the west, which contained what are presumably to be identified as the Emperor's private rooms, was lit from the rear, as well as from the front, by a colonnaded courtyard, and it consists of a series of intercommunicating, rectangular rooms, tall in proportion to their height, but not otherwise unusual. The east wing, on the other hand, consisted of a suite of public or semi-public rooms, and it seems to have been set immediately against a spur of higher ground, so that the service rooms behind could only be lit by splay windows set in the vault of the lofty longitudinal corridor.

The lay-out, though grandiose in scale, follows the familiar lines of a wealthy terraced villa, such as one might have found on the slopes of the Alban Hills or beside the Bay of Naples. But there were at least two features in the detailed development of this plan that were quite new. The one was the deliberate interruption of the neatly rectangular plan of the main block by the incorporation of an elongated, half-hexagonal courtyard, recessed into the middle of the façade in front of the Sala della Volta Dorata. The other was the incorporation into the middle of the west wing of an elaborate octagonal room, with central dome and radiating vaulted chambers[23].

The idea of two wings converging obliquely upon a central feature was not, in itself, a novelty. We find it, for example, in the already-mentioned paintings in the House of L. Cornelius Fronto at Pompeii, a pair of porticoes converging towards a gabled, temple-like central feature[24]. But the enclosure of a trapezoidal space by two independent wings is something very different from the incorporation of a similarly-shaped courtyard within the main masonry mass; and the octagon was an even more startling novelty. Roman domestic architecture was traditionally rectilinear and rectangular, and, except for an occasional recess, room-shapes were extremely simple. The introduction into the plan of polygonal, or of any but the simplest curvilinear, elements was something quite new. How new, we can judge very well by the failure of Nero's architect to produce a satisfactory solution to one of the problems of his own creation. There is no organic relationship between the courtyard, designed to be viewed from without, and the rooms within. The two elements are simply juxtaposed, and the junction slurred over by a series of awkward makeshifts. The octagon is more successfully handled. The obliquity of the radiating lines is absorbed in the unimportant service rooms behind; and although there are features of detail which have not been fully worked out, and which reveal that

[21] Pliny, *HN*, XXXV, 20.

[22] Weege, op. cit., pp. 165–82.

[23] For the octagon, G. Giovannoni, 'La cupola della *Domus Aurea* Neroniana in Roma', *Atti del I Congresso Nazionale dell'Architettura* (1936), Firenze, 1938, pp. 3–11.

[24] Rostowzew, op. cit., pl. VII, 2.

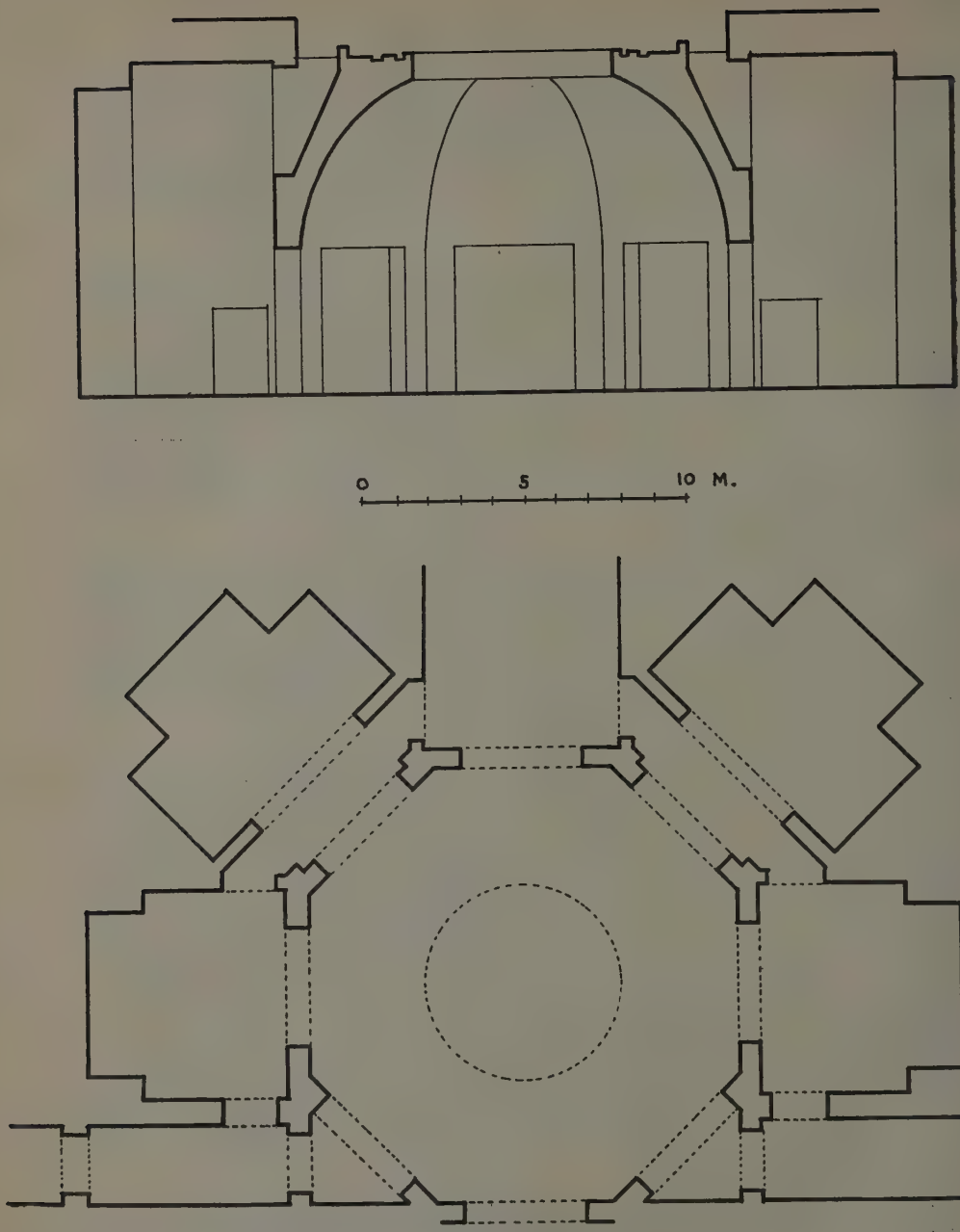

FIG. 3. THE OCTAGON
after Giovannoni

such a design was still experimental, the handling of the main masses is bold and effective, and the whole unit falls neatly into place within the suite of southward-facing living-rooms.

What is of interest today, however, is not so much the success or failure of the architect in solving the many problems involved as the fact that those problems had been raised at all. The Golden House reveals a new and, for its day, revolutionary conception of the meaning of architecture. For the first time in recorded history we find evidence of an interest in the shapes of the space contained strong enough to outweigh the functional logic of the masonry masses that contained it. There was nothing new in the employment of curvilinear or polygonal forms, as such: circular temples and porticoed hemicycles were a familiar feature of the early Imperial architectural landscape; and Roman architects had long been masters of the structural problems involved in handling large curvilinear buildings such as theatres and amphitheatres. But in so far as such buildings incorporated curvilinear or polygonal rooms and corridors, the shapes of these were determined by the form of the building as a whole, not by any aesthetic principle. No doubt they played their part in creating an awareness of the aesthetic possibilities of such building, just as they certainly gave Roman architects a technical mastery of the medium, Roman concrete, which was to liberate them from the tyranny of traditional materials. But it was left to the architects of the middle of the century to give practical application to this awareness, and to exploit the novel aesthetic possibilities of the new material.

There must have been an initial period of experiment. We may suspect that bath-buildings played their part in the genesis of the idea, as they did in its later development. Garden architecture was another fruitful medium of experiment, and the octagon of the Golden House may well reflect the experience gained in some lost pavilion of the Domus Transitoria. The significance of the Golden House is that it is the first recorded building (and may very well actually have been the first building) in which these novel ideas were applied on a monumental scale, and in a field that called for a radically new approach to the whole problem. In invading the traditional rectangular simplicity of Roman domestic architecture, the architect came squarely up against the problem of interior space, in a context that demanded a solution from the inside outwards rather than from the outside inwards. It is hardly an exaggeration to say that the whole subsequent history of European architectural thought hangs upon this historic event.

ACKNOWLEDGMENT. The map and plans which illustrate this article are the work of Dr G. U. S. Corbett, on the basis of material prepared by Mr R. E. McCaughan and Mr John Haskell. The plan of the domestic wing (FIG. 2) is based on that in Lanciani's *Forma Urbis Romae*, with additions by Lugli. FIG. 3 is redrawn from Giovannoni's article (cit. footnote 23).

Books Received

The inclusion of a book in this list does not preclude its subsequent review.

ZUR FRAGE DER NORDWESTDEUTSCHEN SIEDLUNGS- UND KULTURGRUNDLAGEN IM FRÜHMITTELALTER, by FRITZ TISCHLER. Offprint from *Westfälische Forschungen*, 8, pp. 16–24. Münster. 1955.

THE NATURE AND FUNCTION OF PRIESTHOOD, by E. O. JAMES. Thames and Hudson, London, 1956. 25*s*. (A well documented study of priesthood from an historical and anthropological point of view. It is not as the title might suggest a work on theology, but deals in some detail with priesthood in ancient Near Eastern civilizations and amongst modern primitive peoples as well as with the more developed religions).

THE THIRD BOOK OF REMEMBRANCE OF SOUTHAMPTON, 1514–1602. Volume II, edited by A. L. MERSON. Southampton University, 1955.

BRIDGEND : THE STORY OF A MARKET TOWN, by HENRY JOHN RANDALL. R. H. Johns, Newport, Mon., 1955. 21*s*.

ESSAYS IN ROMAN COINAGE PRESENTED TO HAROLD MATTINGLY, edited by R. A. G. CARSON and C. H. V. SUTHERLAND. Clarendon Press, Oxford, 1956. 60*s*.

THE MADABA MOSAIC MAP, by MICHAEL AVI-YONAH. Israel Exploration Society, Jerusalem, 1954. (This 6th century A.D. map of Palestine and adjacent countries is in the church at Madaba. It is well described and illustrated here but we are not told where Madaba is).

SIGIRI GRAFFITI, by S. PARANAVITANA, 2 volumes. Oxford U.P. for the Government of Ceylon, 1956. £10 10*s*. (A collection and translation of the 8th to 10th century A.D. verses inscribed on the gallery walls at Sigiri in Ceylon. These graffiti though of small literary and historical importance are of value for the study of Sinhalese orthography and language. Volume 1 contains a long and learned introduction and the plates, volume 2 contains the printed texts, transliterations, and translations).

THE ROANOKE VOYAGES, 1584–1590 : Documents to illustrate the English Voyages to North America under the patent granted to Walter Raleigh in 1584, edited by DAVID BEERS QUINN. 2 volumes. Hakluyt Society, London, 1955. £6.

DIE NICHTLITERARISCHEN LATEINISCHEN PAPYRI ITALIENS AUS DER ZEIT, 445–700, by JAN-OLOF TJÄDER. Acta Instituti Romani Regni Sueciae, Series in 4, XIX, 1, 2 volumes, Gleerup, Lund, 1955. Swedish crowns 150. (A work of immense erudition. It is a pity that so much labour and learning should produce, in a most elaborate and well published form, material that adds very little to our knowledge).

DARK AGE BRITAIN : STUDIES PRESENTED TO E. T. LEEDS, edited by D. B. HARDEN. Methuen, London, 1956. £3 3*s*. (This Festschrift for one of the leaders and founders of the study of Anglo-Saxon archaeology to our great regret appeared after his death. It remains a fine memorial. It contains papers by many of our most distinguished scholars of the Dark Ages. Here attention can only be drawn to two of special importance, one of ' Glass Vessels in Britain, A.D. 400–1000 ' by the editor, and the other on ' Romano-Saxon Pottery ' by J. N. L. Myres).

AN INTRODUCTION TO THE HISTORY OF WEST AFRICA, by J. D. FAGG. Cambridge U.P., 1955. 12*s* 6*d*.

THE TWELVE OLYMPIANS AND THEIR GUESTS, by CHARLES SELTMAN. Parrish, London, 1956. 17*s*. 6*d*.

HISTORY AND ANTIQUITIES OF DARFUR. Museum Pamphlet No. 3. Sudan Antiquities Service, Khartoum, 1955. 1*s*. (We hope that the excellent series of pamphlets to which this is the latest addition will continue under the new dispensation in the Sudan).

WATER INTO WINE: A Study of Ritual Idiom in the Middle East, by E. S. DROWER. Murray, London, 1956. 25*s*.

Some Recent Books and Articles

The inclusion of a book in this list does not preclude its subsequent review

LE RAZZE E I POPOLI DELLA TERRA III: AFRICA, by R. BIASUTTI. *Unione Tipografico, Turin*, 1955. 7300 *lire*.

RIO DE ONOR: comunitarisme agro-pastoral, by J. DIAS. *Instituto de Alta Cultura, Oporto, Portugal*, 1955. [A monograph on a living community on the Spanish-Portuguese frontier; likely to be of considerable use to prehistorians interested in survivals.]

VIE ET MIRACLES DE S. PETROC, by P. GROSJEAN. *Analecta Bollandiana*, LXXIV, 1956, 131–88.

SCIENCE AND CIVILIZATION IN CHINA, by J. NEEDHAM. Vol. 2. *Cambridge Univ. Press*, 1956. £4. [The second volume of this magnificent undertaking, of which the first was reviewed in ANTIQUITY, XXIX, 49.]

A TRANS-SAHARAN CARAVAN ROUTE IN HERODOTUS, by RHYS CARPENTER. *American Journal of Archaeology*, LX, *July*, 1956, 231–42. [A convincing demonstration of a route from Thebes in Egypt *via* Khargeh and the oases to Siwa, Aujila and the Fezzan, and thence across the Sahara to (as he submits) Bodele which was then a lake fed by the Bahr el Ghazal from the overflow of Lake Chad.]

RECENT ARCHAEOLOGICAL EXCAVATIONS IN BRITAIN, ed. by R. L. S. BRUCE-MITFORD. Routledge and Kegan Paul, 1956. £2 2*s*. [A very fine book, with succinct and readable accounts, excellently illustrated, of such important things as Sutton Hoo, Stanwick, the Mithraeum, Star Carr and Dr St Joseph's air-discoveries.]

Notes and News

RECENT DISCOVERIES AT OLYMPIA

In the German excavations at Olympia of the last two years the classical archaeologist has been afforded one of the very rare opportunities to study at first hand evidence for a major work of art of classical antiquity, in fact one of the Seven Wonders of the ancient world—the gold and ivory statue of Zeus. In the 2nd century A.D. the traveller Pausanias was shown the position of the workshop in which Pheidias assembled the colossal chryselephantine statue. From his indications the building was identified as that which was later converted into a church, immediately outside the main enclosure of the sanctuary to the west. The identification had won more ready approval from guides than from scholars, but in 1954 Dr E. Kunze, continuing excavations begun by Greek archaeologists in 1875, began a detailed study of the area. The pottery recovered from the building which had become a church proved that its construction could in fact be dated to the 5th century B.C. Other finds within the building and in the vicinity showed that it was indeed a workshop. Considerable chips and splinters of ivory indicated the material which had been worked, and knives and chisels the implements employed. An elephant's tusk which was found had been whittled down to its core. Glass waste and fragmentary small clay moulds for floral and star motifs show that the statue and throne were embellished with coloured glass inlays, and the variety of other materials employed is suggested by the scraps of bone, lead, iron, bronze, plaster and pigments found in the same levels. Worked obsidian gives an interesting illustration of the fact that this material was still being used in classical Greece.

The most important find, however, was of clay moulds, some of them reinforced with iron bars, which represented parts of the drapery of two figures, one large, one small. It will be remembered that the seated Zeus held a small figure of Victory in his outstretched hand. Practical demonstration made it clear that gold sheet, slightly warmed, could readily be beaten onto these moulds, thus producing piecemeal the golden drapery for the statue and attendant figure. Letters incised on the edge of some moulds seem to have served as identification for pieces which might have been confused. Not the least important result of the discovery of these moulds is that enough is preserved to give some impression of the style of the drapery. From it Kunze argues that the statue was made after Pheidias' work on the Athena Parthenos at Athens, and not before, as many have hitherto believed.

The workshop seems to have been the focus for a small complex of buildings associated with it. The size and proportions of the workshop itself closely match those of the cella of the temple in which the finished statue was to stand, and the correspondence can hardly be accidental. In a corner of the building was found a well, with a bronze ewer beside it, which could provide a ready supply of the cold water required for the metal working processes. A little to the east stood a foundry which has to be further investigated.

The statue stood in the Temple of Zeus until A.D. 426 when Theodosius II decreed the demolition of pagan temples. It was taken then to Constantinople where it was destroyed in a fire in 476. Other major works of Pheidias suffered a similar fate. The bronze Athena Promachos in Athens also travelled to Constantinople in 426 and was destroyed by a drunken mob in 1203, while the chryselephantine Athena Parthenos may have gone the way of the Zeus. The only replicas of the Olympian statue which

we possess are on coins of Elis which reproduce the head or whole statue. The new finds at Olympia may not help much towards an appreciation of the whole figure, but they afford invaluable information about the details of its construction, and about the style and appearance of many of its parts.

Preliminary reports by E. Kunze on these excavations have appeared in *Gnomon*, 1955, 222 f.; 1956, 318 f., and illustrations of tools and moulds in *American Journal of Archaeology*, 1956, pl. 97. JOHN BOARDMAN.

CYPRIOTE STORAGE-PITS

The following remarks are extracted (by permission) from a letter sent by Mr Vlassios Krestos to Sir Mortimer Wheeler after a broadcast. We wish to thank both for their co-operation. Mr Krestos writes :—

'One of the speakers referred to the discovery of underground granaries in England. It may be of interest to record that a parallel exists today in the Carpass, the north-eastern peninsula of Cyprus. The underground granaries there are called *gouphes* (nom. *goupha*), a dialect-form of *gouba*. They are 8 to 10 feet deep, 5 to 6 feet in diameter, and are conical in shape with a narrow mouth of about 2 feet diameter, framed with four slabs of "rock slate" on which the lid rests. They were usually dug in the farm land or near the threshing floor. Those dug in heavy clay soil have been baked through use and have stood very well. The *gouphes* were still in use up to a few years ago for the purpose of fumigating cereals by heat. The *goupha* was heated by burning wood; the ashes were then cleared out, time allowed for cooling, and the *goupha* then filled up with wheat or barley. The lid was then placed over the mouth and covered with a sealing formed of clay mixed with chopped straw and water. It was usually opened after three to four weeks.

According to my grandmother who lived there during the Turkish occupation of the island, these *gouphes* were sometimes used by the peasants to conceal their produce and evade the produce-tax (*decatia*) consisting of a tenth of what was produced. For its collection there was a body of inspectors who took their work very seriously and carried it out (it seems) with as much zeal as the Income Tax collectors today, and with considerably more physical force!

But since the introduction of modern insecticides and fumigants, these *gouphes* have become obsolete'.

FOOD PRODUCTION IN N. AFRICA

Questions for discussion were recently invited, in connection with a symposium organized by the past editor of the *American Anthropologist*. The Editor sent one in, but for various reasons the replies were not published. Here is Prof. Robert Braidwood's, dated Jan. 23, 1955 :—

'I cannot reply in particular to O. G. S. Crawford's interesting question regarding the appearance of food-production in north-west Africa: I have no first hand contact with the area and only cursory acquaintance with its literature.

As a generalization, I may say that I am becoming more and more convinced that our understanding of the appearance of food-production has been seriously blurred by the continued use of the term "neolithic" and the tendency to lump quite different things under it. I suspect the appearance of food-production consisted of two phases: (1) a phase of incipient agriculture and/or animal domestication, and (2) a phase marked by the appearance and early development of the village-farming community. I now

wonder whether the first phase—incipient agriculture and/or animal domestication—may not have been an affair of some duration. The archaeologically reclaimable aspects of the phase's cultural manifestation are peculiarly difficult to recover and interpret, and to see as something separate from the level of simple food-collecting savagery which lay immediately before (and doubtless about) it. The first phase certainly began earlier than the second, but it also doubtless lasted—in places—long after the second phase had begun. We do not know, as yet, the centre (or centres ?) of the first phase, and it is not clear to me that these have necessarily to have been in the nuclear Near East—I suspect we now have glimpses of the phase from at least as far east and north as the Caspian, and south and west as far as French North Africa. I should guess that both caves (when available) and temporary open sites would have been occupied, and that there would have been seasonal variations in activities which would be reflected in the reclaimable assemblages (and which the archaeologists finding them would doubtless try to order sequentially in a table !)

'The second phase—that of an increasingly stable village-farming community—did, I believe, make its earliest appearance along the hilly-flanks of the nuclear Near East, and rather suddenly. In it, the level of efficiency of food-production was an affair of a completely different order from that of the first phase : in the second phase also, the presence of the cereal grains and of the more familiar domesticated animals is now attested in bulk. I do not know of any direct evidence for the cereal grains in the first phase, nor for significant numbers of animals. We do not know how and why this vast increase in the level of efficiency of food-production came about, at (with) the beginning of the second phase, but I expect that we shall some day find out through the joint field efforts of archaeologists and natural scientists. In western Asia, we can now show that the village, as an architectural (artifactual) manifestation, is the hall-mark of the appearance of the second phase—pottery and some of the other traits of the so-called " neolithic" follow later.

My hunch about north-west Africa is that it moved into the first phase, perhaps even at some relatively early time, but that it stayed in the first phase—for all intents and purposes—until Punic times'.

THE FIRST TOWNS ?

Sir Leonard Woolley writes :—

'In the September number of ANTIQUITY Sir Mortimer Wheeler gave under this title a most exciting account of recent discoveries at Jericho. To me it seems unfortunate that he regards those discoveries as inconsistent with " the conventional view as to the emergence of civilization ", whereas their great importance lies in their bearing on the emergence of agriculture, which is a very different thing. I do not think that any archaeologist believes that agriculture started in the big river valleys of, e.g. the Nile or the Euphrates ; quite apart from the fact that those valleys became habitable only late in man's history, nobody would have gone down into the drying marsh-land of southern Mesopotamia to practice agriculture unless he already knew what agriculture was and could recognize therefore the possibilities of the Delta. An oasis origin for agriculture is virtually certain ; but that does not make valid Sir Mortimer's " Oasis Theory of Civilization ".

Jericho was a fortified oasis of almost incredible antiquity. Its *raison d'être* was of course the wonderful spring supplying water for men, cattle and crops ; that meant wealth of an enviable sort, and the early neolithic inhabitants protected themselves and their possessions by building a town wall the like of which has not been found anywhere else, a

fantastic accomplishment for people living literally thousands of years before man had even invented the clay pot, more astonishing really than their modelling of portraits on human skulls. We have here the beginnings, it would seem, of domestication, agriculture and town-building (to which I would add, art); that is true; but it is true also that Jericho survived into the late Bronze Age as a walled town, and never originated anything that can be called civilization.

But what is civilization? Sir Mortimer rightly begins with a definition. He quotes Gordon Childe's definition and says that he would "accept it wholeheartedly, save for the inclusion of writing as a primary factor"—but for Gordon Childe writing is largely the gist of the matter. Frankfort, he says, "flatly declines to be led astray into civilization in the abstract", so cannot be cited; on the contrary, Frankfort divides the whole of man's cultural advance into two main stages, the Pre-literate and the Literate, making writing the crucial test of civilization. Indeed, the "organized and durable administration", which Sir Mortimer postulates, would be but a precarious thing if it lacked the transmitting of experience and the intellectual heredity that writing alone secures; writing is not "a secondary consequence of civic life" but a condition of it.

Men were farming in the Fayum and at Hassuna long before the Nile valley and the Mesopotamian delta were habitable; now Jericho takes us back to a far earlier oasis cultivation. The great rivers did not originate agriculture, but they made possible the exploitation of agriculture on a big scale. The world's earliest civilizations,—using the word in its accepted sense—started in the valleys of the Euphrates, the Nile, the Indus and the Huang Ho; they benefited by the arts and crafts developed elsewhere by "pre-literate" or "barbarous" cultures, but if we fail to distinguish them from those cultures we shall lose all historical perspective'. LEONARD WOOLLEY.

Sir Mortimer Wheeler replies:—

'It would be without precedent for Sir Leonard Woolley and myself to differ, and in the present instance it seems to me that we are essentially at one. He agrees (as indeed he must) that the new discoveries at Jericho extend town-building far back beyond the pre-existing limit, and that was the main point of my article in the September ANTIQUITY. But in affirming this I am not for a moment trying to undermine the established reputation of Mesopotamia as a centre of civilization. If Sir Leonard will be good enough to re-read the last paragraph of my account he will find that I said there "it doubtless remains true that in these (i.e. Mesopotamian) valleys civilization ultimately reached its first optimum".

The difference, such as it exists, between us lies in emphasis and terminology. The real trouble is that "civilization" is too big a word just for "the art of living in towns". It implies *in its full development*, as Sir Leonard says, some measure of literacy. But between the primitive village and the developed civilization there is this phase to which Jericho has given a new and notable entity: namely, that in which, on an agricultural basis, walled and formidable towns were coming into being with all that that implies in respect of co-ordinated labour and social discipline on a developed scale. For this intermediary or immature phase of civilization the word "urbanization" is better than "civilization". Let us agree, then, on the sequence: village-agriculture—urbanization—civilization.

I am grateful to Sir Leonard for this stimulus to clearer thinking. My speculative contribution shall be re-christened the "Oasis Theory of Urbanization". After all, it *was* entitled "The First Towns?"! And for the present neither Sir Leonard nor anyone else can envisage the extent and ramifications of the astonishingly early phase of urbanization with which Jericho has provided our first contact'. M.W.

TWO ETHIOPIAN CHURCHES

In a remote mountain region of Ethiopia, 80 miles south-east of Lake Tana, there are still to be seen the ruins of a church built by Portuguese missionaries about the year 1630. It was called Martula Maryam, meaning ' Mary's Chapel '[1] and was not the first church to be built on the site. At some time round about 1507 the Empress Helena had imported workmen from Egypt and built a church which was burnt down twice during

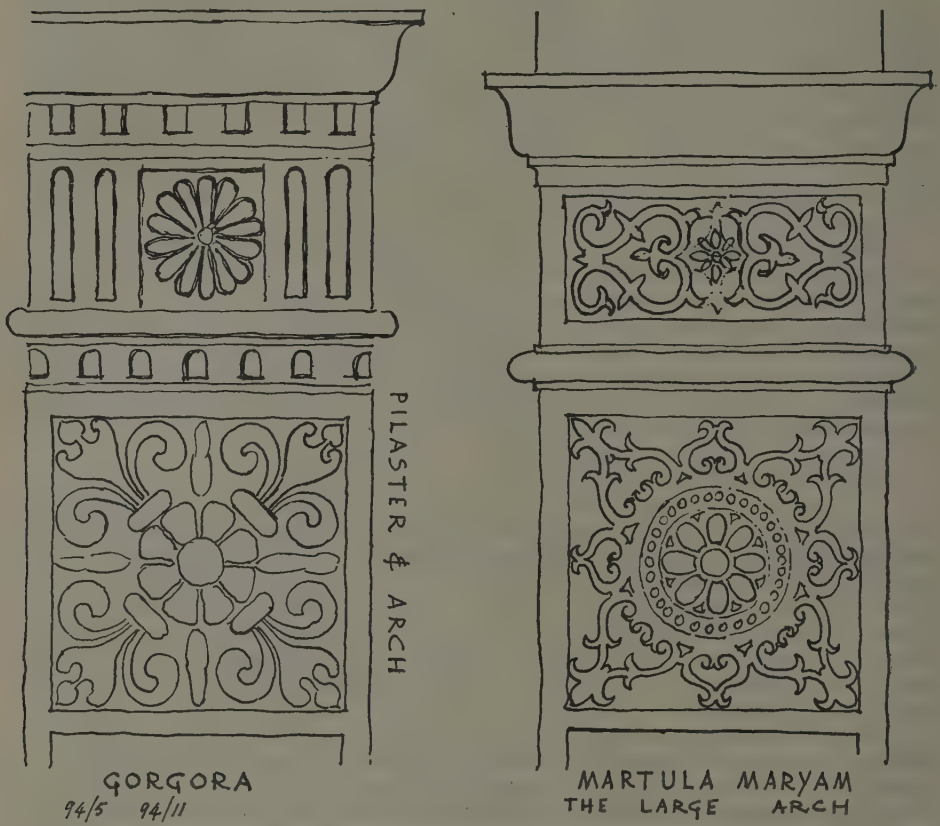

FIG. 1. THE DESIGNS OF MARIAM GIMB (GORGORA) AND MARTULA MARYAM COMPARED

the Mohammedan invasion (from 1527 onwards). The ruins were visited and described by Almeida, probably about 1630 when the third church—the one here illustrated—was being built by the Portuguese Jesuits and others. The walls were then still standing, and Almeida saw, both on the ground and also in place in the building, ' many very big pieces of stone . . . broad and smooth ' decorated with ' roses ' which ' could not be

[1] The Ethiopian word ' martul ' comes from the Greek μαρτύριον, ' witness ', ' testimony ', and hence ' martyr ' and by an extension the chapel of a martyr or saint. See Dillmann, *Lex. Arch., col.* 171.

bettered, I do not say in gold or silver with a burin, but even in wax or painted with brush and pen '[2]. It was for this church of Helena's that Peter de Covilham, the Portuguese who went to Ethiopia about 1490, designed an altar at the request of the Empress. This, says Alvarez[3], was of wood covered with gold, and the altar-stone was also of gold. He adds that by reason of the quantity of gold in the church it was always well guarded. Martula Maryam is near the province of Damot which has always been reputed to be rich in gold, but whether occurring there naturally or imported from further west seems to be

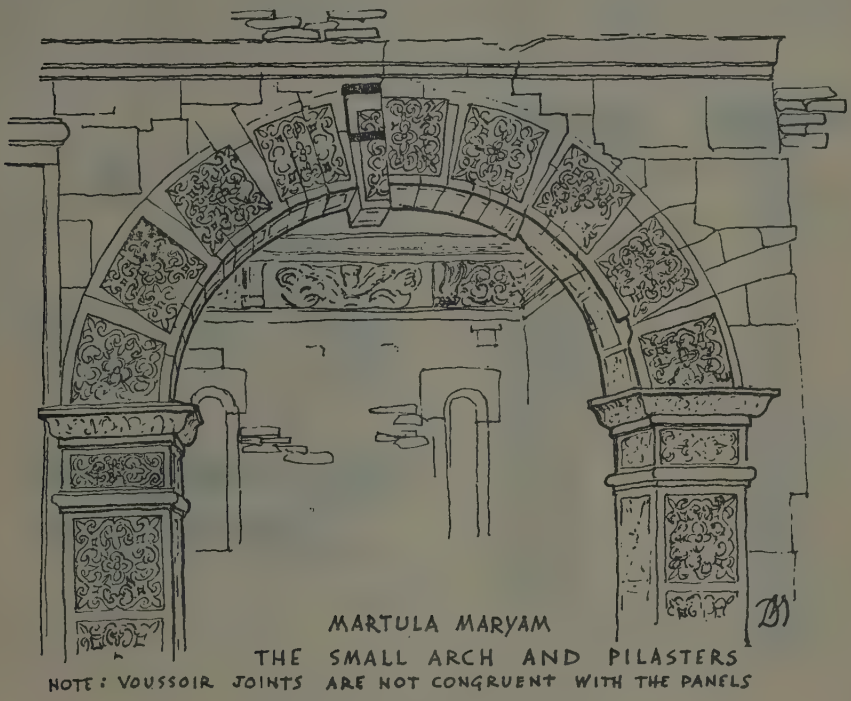

Fig. 2. THE SMALL ARCH AT MARTULA MARYAM

unknown. Gold was certainly washed from river deposits on the Sudan frontier from very ancient times[4].

The church was visited by Beke, the English traveller, in October, 1842; his description of it in *Archaeologia* has been reprinted by Beckingham and Huntingford, together with a facsimile reproduction of his plan[5]. The present note originated from

[2] Quoted from the translation of Almeida's History in 'Some Records of Ethiopia' (Beckingham and Huntingford), *Hakluyt Soc.*, 2 Ser., vol. CVII, 1954, 104.

[3] Narrative (*Hakluyt Soc.*, vol. LXIV, 1881), 350.

[4] See my *Fung Kingdom of Sennar* (Bellows, 1951), 281–3.

[5] Op. cit., pp. 105–7. For Beke see *Archaeologia*, XXXII, 1847, 38–57 and *Journ. R. Geogr. Soc.*, XIV, 26.

some photographs taken by Mr Stephen Wright, from which drawings have been made by Mr Derek Matthews. The photograph of Mariam Gimb near Gondar is one of a set taken by Mr Matthews. The main purpose of the note is to publish, for the first time, illustrations of the ornament and show the close resemblance—quite natural in view of the fact that both churches were built by the same people at almost the same time.

O.G.S.C.

The most easily accessible of the Jesuit buildings in Ethiopia is that of Mariam Gimb (Mary's stone building) which stands on a magnificent site on the shores of Lake

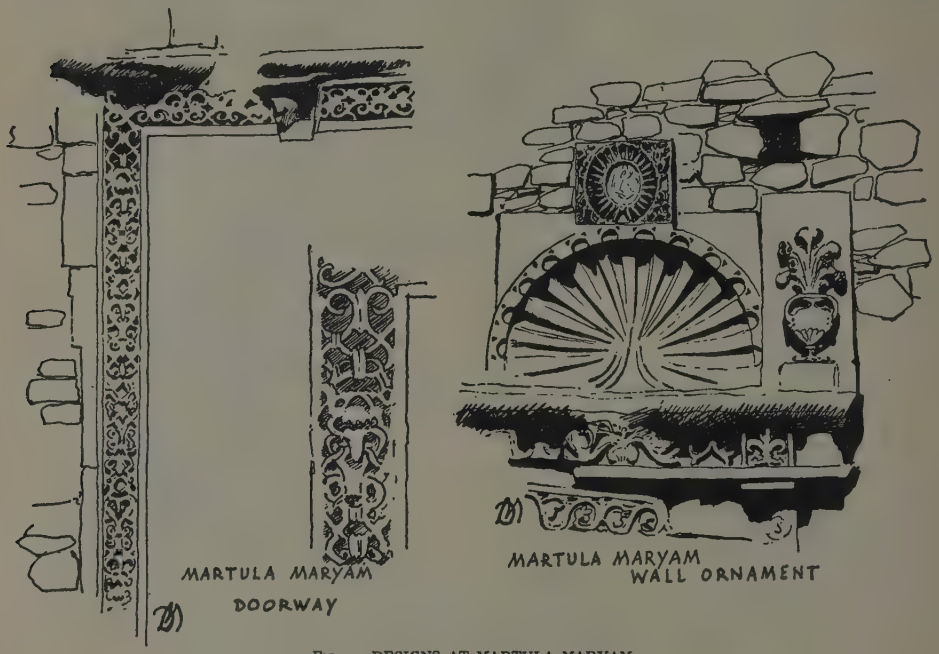

Fig. 3. DESIGNS AT MARTULA MARYAM

Tana, three hours' mule-trek from Gorgora, which is 50 miles south of Gondar. This church is an example of Renaissance work of earlier date than the castles of Gondar and differing from them in both its plan and in details. It is a monument to an event which never came off—the conversion of Ethiopia to the Catholic faith, and it was the climax of the Jesuit mission.

The church or cathedral of Mariam Gimb was built by Paez during the years 1619–21 for the Emperor Susenyos. It stands on a wooded promontory bounded by deep creeks frequented by hippopotami. One wall of the nave is still standing, decorated with renaissance carvings and mouldings. The nave was formerly covered by a barrel-vaulted roof, still remaining above the choir. In an adjoining courtyard are the remains of a round church. Some of the curtain walls have loop-holes.

Susenyos, acknowledged king in 1607, protected Paez for he relied upon the help

of the Portuguese. Paez soon converted him to the Catholic faith, and not only designed the building, but trained the workmen himself. The Ethiopians were amazed, calling it a ' house upon a house ', for it was the only building in that part of the world with an upper floor. The ancient palaces of Axum, which may have had more than one storey, had fallen into ruin and oblivion long before Gondar became the seat of the throne[6].

It is important to observe the difference between this purely Jesuit work and the later castles of Gondar which show other influences[7], and were constructed without exception after the expulsion of the Jesuits by Fasilidas, son of Susenyos. The lovely irrelevant structure of Mariam Gimb did not harmonize with the soul and traditions of Ethiopia. The renaissance style could hardly last after the Jesuits were banished and the imperial policy changed. This may perhaps explain the construction of the later buildings in an anti-Catholic style of architecture. DEREK MATTHEWS.

[6] The ancient church in the monastery of Debra Damo (see ANTIQUITY, XXIII) has a stair leading to lofts and rooms in the upper part of the church.

[7] It is said that Indian builders were concerned in the erection of the palaces of Gondar; see Monneret de Villard in *Rivista degli Studi Orientali* (Rome), XVII, 328, quoting P. E. Peiser, *Zur geschichte Ab. im 17 Jahrhundert*, Berlin, 1898, p. 38.

Reviews

A HISTORY OF THE SOCIETY OF ANTIQUARIES. *By* JOAN EVANS. *Oxford*, 1956. £1 15*s*.

Histories of societies, like those of clubs, regiments and families, are of limited interest and usually as unreadable as works of reference. When, as here, an attempt is made to combine the information only suitable for a work of reference or a bibliography with a continuous narrative the results must be disastrous. To make the confusion worse the author has not been content to write merely the history of the Society but has tried at the same time to trace the progress of archaeology in England. The result is a blurred picture and, so far as the later history of archaeology is concerned, a very imperfect and often incorrect one. If the Society had ever been in the centre of the picture it might have been possible to combine these two histories, but it was not. English archaeology is not the same thing as the Society of Antiquaries. The book reveals only too plainly the shortcomings and the bad heredity of the Society, metaphorically speaking. The archaeology of today—and I don't mean prehistory only—has not grown out of antiquarianism as chemistry grew out of alchemy. The modern archaeologist has little in common with those earlier antiquaries who were collectors and no more than collectors.

The early history of the Society is a shocking succession of quarrels over trifles, personal animosities, intrigues and feuds, and of opportunities missed; it is partly redeemed by a few gallant attempts to prevent the destruction, chiefly by the Church and the Government, of cathedrals, abbeys and other monuments. But John Carter was blackballed and Wyatt elected. In 1828 the Society had the offer of Thomsen's classic paper but refused it, and the honour went in 1836 to Denmark, which had more sense. The Society made no attempt to save any of the monuments threatened or destroyed by railway construction, or to 'avail ourselves of the accidents of discovery', as Pettigrew put it in 1852 in a letter to the President (p. 273). It even went so far as to withhold its support from Lubbock's first Ancient Monuments Act! Though good work was sometimes done by individual Fellows, the Society as a body did little except carry on 'an unpleasant tradition of bad-mannered disagreements' (p. 213). Its besetting sin was snobbery; many candidates were blackballed, often for the wrong reasons or no reason at all. Indeed at one time blackballing became so irresponsible that it drew repeated reproofs from the Presidents. Even in the twenties and thirties of this century there still survived a few Fellows who made a practice of blackballing *every* candidate, regardless of his or her qualifications. Amongst those blackballed have been some of the best archaeologists of the present century; some of the others, like Layard and Flinders Petrie, were never Fellows. Much of the trouble can be traced to a dining-club called the Cocked Hat Club, composed of Fellows who 'habitually dined before ballots and scrutinized the list of candidates. [Sir Arthur] Evans had a dislike of exclusive dining-clubs . . . and refused nomination to the Hats. Franks, too, was never a member' (p. 347).

The attempt to write two histories at once creates great confusion in the last few chapters. On pp. 403–5 is an account of the beginnings of air-photography in the service of archaeology which does not even mention crop-sites and is full of inaccuracies. Nadar's were the first air-photographs but they were not archaeological. Wiegand was not sent to take air-photographs on the Turkish war-zone but to look after the ancient

sites generally ; the idea of taking air-photographs of them was his own, and he should be given the credit (which I have always given him) of being a pioneer. The prolongation of the Stonehenge Avenue was discovered on an R.A.F. negative, amongst those which I was inspecting at the aerodrome at Old Sarum, and not during the Wessex survey of 1924. ' Field divisions ' and ' Celtic lynchets ' refer to one and the same things, which are not invisible on the ground. Woodhenge was first discovered by visual observation from the air, by Insall (who is not mentioned), and the air-photographs were taken by him afterwards. The Sanctuary at Overton and Durrington Walls were not discovered from the air but were well known ; the former was first described by Stukeley in the 1720's ! No air-photographs of Stonehenge or of Maiden Castle were taken during the Wessex Survey. The single sentence devoted to ' Wessex from the Air ' is very misleading ; for ' six barrows ' read ' six *Plates of* barrows ', and so on with the other sections mentioned. The ' Miscellaneous ' section of the same book is dismissed as dealing with ' other dikes and clumps '!! And what had all this to do with the Society of Antiquaries ? Nothing, except that one of us was then a Fellow. The Society itself displayed no interest whatever in the subject until after it was well established.

Later on there are some criticisms of a book I wrote during and after the first war, setting out my ideas about archaeology in general, and what seemed to be desirable objectives and methods. The book suffered from certain defects of youth, but it had an influence and much of what was forecast has since happened. According to Dr Evans the ' rigid discipline of war ' was responsible for narrowing my ideas. ' Crawford [in *Man and his Past*, p. 38] answered the question " What is Archaeology ? " *entirely* in terms of pots, potsherds, stones, bones and earthworks. He conceived it as confined to the prehistoric field, in the narrowest sense ; so soon as man became a member of a society, he, as an archaeologist, ceased to be interested ' (p. 404, my italics). That is a gross misrepresentation both of the character of the book and of its author's interests. I would point out that, so far from answering the question ' entirely ' in those terms I used the word ' mainly ' (' the subject-matter of archaeology consists mainly of pots ', etc.). The statement I made is correct ; archaeology *does* consist ' mainly ' of that kind of evidence ; see any excavation report.

Reid Moir's ' great discoveries '—never accepted by many and now mostly discredited—are said to have added ' to the knowledge of the earliest artefacts found in this country ', which begs the question. Grimes Graves excavations (of the neolithic flint-mines) are described under the heading of ' palaeolithic ' (pp. 404–5). It is true that ' the English antiquaries led in revealing ' the Glozel rubbish as forgeries, but it was *after* the first revelation (by me) that the Society of Antiquaries published a silly article by Saloman Reinach claiming that they were genuine (p. 407). In the account of the foundation of the Institute of Archaeology, Tessa Wheeler, who had so important a share in it, is not mentioned (p. 419).

Amongst the many omissions which must be mentioned if the book is to be regarded as a history of English archaeology, perhaps the most remarkable is that of George Allen, one of the pioneers of archaeological air-photography. There are others. One might have thought that the foundation of ANTIQUITY deserved at least passing mention.

On p. 383 the author speaks of the ' principles and disciplines that the Society of Antiquaries stood for'; what are they ? So far as one can judge from this book the principal principle was that of ' jobs for the boys '. A late instance of this (not mentioned here) occurred in the twenties when a rescue-dig at Pokesdown near Bournemouth was financed (in response to my request) by the Society. I was told by the Secretary (Griffin) that Colonel Hawley, then the Society's excavator, must nominally direct the work and

receive the payment, but that there would be no objection to the actual work being done by another who for various reasons was the best man for the job. What was important was to save the site from destruction, and as it could only be done on those terms we were obliged to accept them. So much for the Society's principles.

The fact is that during the growing years of archaeology between the wars the Society was completely out of touch and sympathy with all that was best in that growth. It was dominated by a clique of narrow-minded medievalists and collectors who had neither the wits to comprehend anything outside their own special interests, nor to conduct any worthwhile researches within them. Reginald Smith used constantly to complain, when he was Director, that he could not get papers and articles out of the medievalists. The contempt for prehistory shown, sometimes openly, at meetings was heartily reciprocated. I think it was partly the dulness of the *Antiquaries Journal* that helped ANTIQUITY to succeed, and the apathy of the Society may well have contributed also to the success of the Prehistoric Society, which, helped by no endowments and unencumbered by a bad tradition, has made the pace during the last twenty years, largely by reason of the drive and ability of its officers. It is a sign of the better and more scientific spirit of modern archaeology that the Prehistoric Society has not been troubled with the absurd quarrels that bedevilled the Society of Antiquaries, nor has it been made to look ridiculous by a bogus ritual display at its meetings.

This book is an official publication of the Society of Antiquaries. There are a number of misprints, mostly of proper names (e.g. on pp. 119, 347, 374, 375, 400, 403, 405, 407, 420 [three]). O.G.S.C.

THE MOUNTAIN OF GOD: A STUDY IN EARLY RELIGION AND KINGSHIP. *By* H. G. QUARITCH WALES. *Bernard Quaritch Ltd., London.* 1953. *In* 8*vo*; VIII, 174 *pp., with* 3 *pl.* and 15 *fig.* £1 15*s.*

The merit of this book lies in its wide perspective. Egyptology, Assyriology, Indology and Sinology tend to be hermetically sealed compartments. To be sure, historic movements cut across them; but the specialist is usually unequal to the task of controlling problems that span other fields and his own. Quaritch Wales maintains that certain religious elements (including the ziggurat) going back to the fourth millennium, spread, mainly in the second millennium B.C., across Asia to the Far East. That there were cultural movements across Asia at that early time cannot be doubted. Whether we can delineate them accurately at the present time, is another matter. But this much is certain: archaeology needs bold spirits like Quaritch Wales to blaze new trails. More timid souls can refine the conclusions later.

General verities are not necessarily valid in specific cases. Anyone familiar with Egypt will have a hard time believing that 'there is also the undoubted fact that kingship in Egypt developed from the prehistoric magician or rainmaker chief who still survives among many African tribes' (p. 19). Rainfall is negligible in Egypt and plays no part in the fertility of the Nile Valley or in the psychology of its people.

The Mountain of God reminds us that the Near, Middle and Far Easts were related in antiquity; and that we cannot go on assuming that culture moved exclusively westward. On the other hand, the vastness of the problem of interconnections everywhere between Indonesia and Egypt should suggest a practical compromise between overspecialization and 'hyper-teleconnection'. The compromise that makes most sense here and now, is further and deeper correlation between the civilizations of the Indus Valley and Babylonia. Once those two areas are bridged comprehensively and methodically, the wider gaps will be spanned more successfully.

There is a wealth of material that the scholar could now digest and correlate. The recent report that ' Kafiristan tribesmen of the Northwest Frontier of India are still playing harps that closely resemble those made by the ancient Sumerians ' (*New York Times*, 5 July 1955, p. 60, col. 1) is a sample of the new data that are piling up. The unmistakable resemblance between the Sumerian and Chinese languages is a sample of the long-known data that have not yet been adequately exploited. CYRUS H. GORDON.

CATALOGUE OF THE TERRACOTTAS IN THE DEPARTMENT OF GREEK AND ROMAN ANTIQUITIES, BRITISH MUSEUM. Volume I: Greek, 730–330 B.C. *By* R. A. HIGGINS. *Separate volumes of text and plates: VII and 432 pages, and 208 plates. London, British Museum*, 1954. £15 15*s*.

This is the first volume of a new series designed to replace the earlier catalogue of British Museum terracottas, now some fifty years old. It embraces all figurines of the geometric, archaic and classical Greek periods, while later volumes will deal with the prehistoric, Hellenistic and Roman terracottas in the collection. The figurines, over 1500 of them, are grouped regionally by their place of manufacture, and each group is prefaced by a brief account of fabric, style and history. In view of the great range of the collection this method of presentation makes the book as much of a text book and work of reference for local Greek terracotta types as it is a catalogue, and in this service it is not likely to be easily bettered. The limiting factors are of course inherent in the collection itself; an overweight of East Greek pieces in comparison with the mainland and western examples, though even this glut of material from Rhodes and Halicarnassus has a value greater than the intrinsic interest of the individual pieces. The Rhodian terracottas are for the most part from the Salzmann and Biliotti excavations at Camirus in Rhodes. Higgins gives an account of their work there and, drawing on unpublished papers in the British Museum, lists all the tomb groups which contain terracottas. These give valuable dating evidence, especially for the 5th century B.C., and as Rhodian terracottas were so widely copied this is not of purely local interest. The broad chronological division into thirds of centuries is wisely unambitious for material of which so much must be the work of conservatism or the copyist.

A short introduction discusses the technique, purpose and history of Greek terracottas, and is the best guide to the subject that I have read in any language. The descriptions are to the point and not mechanical, the printing excellent, the half-tone plates clear. In short it is a book that any classical archaeologist could not fail to want in his working library. It is a pity that so few will be able to afford it. JOHN BOARDMAN.

DANISH PEASANT CULTURE. *Text by* PETER MICHELSEN *and* HOLGER RASMUSSEN. *92 pp., 30 half-tone illustrations. Guides to the Danish National Museum. Copenhagen*, 1955. 3 *kroner*.

The ' Collection of Peasant Culture ' in the Danish National Museum is the concern of the Third Department of that museum. (The arrangement of the National Museum in this respect is of interest, the Open Air Museum being the Seventh Department, but each Department or Section being administratively independent. The Museum of Agriculture forms still another Section.)

This Guide has a brief Introduction, and six chapters on Husbandry, Fishing and Hunting, Domestic Industries and Crafts, the Dwelling House, Costume, and Feasts and Ceremonies. There follows a detailed guide to the individual rooms in the collection together with a series of half-tone illustrations of rooms and specimens. The

descriptive account is excellent and the story unfolded indicates how international are the bases of material culture. For example, figure 5 illustrates a farmer making a coiled straw basket (*løb*) in West Jutland, using only a section of a cow-horn as a gauge for the straw coils. The same basket is produced by farmers in mid-Cardiganshire today, using the same implements and the same name (*lip*, cf. English ' leap ').

The chapter on Costume makes salutary reading for those who write so freely of ' national costume '. It is stressed that ' every small area had its own dress ' and that the chief elements of peasant costume are ' mainly the same as those of other forms of dress '. The national element in culture is based not on material things but on language and the spiritual tradition to which it is a key.

The book is well written ; only occasional phrases (e.g. ' the ancient parts of the building are often *encapsuled* by additions of later times ', the use of ' rustic ' for ' rural ', ' variation ' for ' variety ', etc.) show that for the authors English is, as for the present reviewer, a foreign tongue. IORWERTH C. PEATE.

THE PROBLEM OF THE PICTS. *Edited by F. T. Wainwright.* 9×6¼. *pp.* XII + 188, *with* 12 *plates*, 16 *figs. and* 7 *maps. Edinburgh : Nelson*, 1955. 21*s.*

This volume is an attempt to bring together the archaeological, historical and linguistic evidence about the Picts. The term Pict is used in the historical sense, as it was applied to certain peoples in Northern Britain from A.D. 297 onwards. The Problem, perhaps it would be better to say the problems, is set out by Dr Wainwright, who surveys the available data in an opening chapter. There follow three shorter contributions dealing with the archaeological background (Professor Piggott), the fortifications (Mr Feachem) and the houses and graves (Dr Wainwright). The two final chapters are concerned with the Art of the Picts by Mr Stevenson and their language by Professor Jackson. It will be convenient first to consider these two contributions as they alone deal with material that is admittedly Pictish, in the sense in which the word is here defined.

Mr Stevenson's account of Pictish Art is admirably lucid. He analyzes the more important motives and indicates their relation to other non-Pictish, and often more closely datable, examples. His conclusion is that no artistic developments definitely earlier than the mid-7th century can so far be ascribed to Pictland. From this beginning he traces the rise and decay of the characteristic art. His general picture will carry conviction. In a few cases he has, in the writer's view, been misled by the early dating ascribed to Irish works. The point need not be laboured as Mr Stevenson gives full references to earlier writers in this field, including those with whose views he disagrees. His careful analysis of the crescent motive, among other things, shows that this chapter is not a mere compilation but a substantive contribution to the study of Pictish art.

Professor Jackson provides a succinct account of the linguistic material available, stressing the comparatively small quantity. He identifies two languages as current in historical Pictland. One is P-Celtic, neither Gaulish nor British, but a third member of the same family. The other is not Celtic and apparently not even Indo-European ; it represents the speech of the inhabitants whom the invading Celts found established in the island. He also makes it clear that there is no evidence for a Goedelic type of speech in Pictland, prior to the spread of Irish Gaelic from Argyll in the historical period.

The three archaeological contributors are handicapped by the fact that there is no general agreement on the types of settlement or of object that can be associated with the historical Picts. Their chapters have, consequently, to assume the form of a survey of the relevant material in the area later occupied by the historical Picts. The greater part

of this material is either certainly or probably of a date earlier than 297. Any peoples earlier than this first written record of the Picts are classed as proto-Picts, if in the opinion of the writer they are ancestral to the historical people. The Picts being regarded by most of the contributors as a people of mixed ancestry, the term proto-Pict receives a wide connotation, which is not very helpful. Historically one would expect one element in a mixed people to be dominant and in the opinion of the writer it would be wiser, if the term proto-Pict is to be employed to confine it to this element. Nor is there serious doubt as to the central area of Pictland. As the linguistic evidence shows it lay east of the mountains, along the coast between Dornoch Firth and the Firth of Forth. This area also represents the central core of the distribution of the Pictish symbols, though there is also a concentration of these along the Sutherland coast, immediately north of Dornoch Firth. The other extensions of the symbols, north to Caithness and the Orkneys and west to Skye, are comparatively slight; bearing in mind the late date, to which these stones are ascribed, they could be explained in terms of a secondary expansion by emigration or conquest within the historical period. This interpretation becomes more probable when we examine the distribution of the brochs, which cover a compact area on the northern mainland and in the islands. The Pictish symbols penetrate this area but do not cover it. In these circumstances it is suggested that the term proto-Pict, if it is to be employed, should be confined to the pre-4th century people of the area from Dornoch to the Forth. To apply the term to earlier peoples in a wider area, for instance to all the northern tribes listed by Ptolemy (p. 49) can only obscure the issue. We have dwelt on this point at some length, because it seems to embody a methodological principle of some importance. Viewed in relation to the whole volume it is a comparatively minor issue and we would conclude by offering our congratulations to the editor and the contributors, who have done so much to bring light into one of the dark corners of early British history and to expose so many popular but untenable theories.

C. A. Ralegh-Radford.

DIE EINZELGRABKULTUR IM SCHLESWIG-HOLSTEIN UND IHRE KONTINENTALEN BEZIEHUNGEN. *By* Karl W. Struve. *Offa-Bücher, Vor- und frühgeschichtliche Untersuchungen aus dem Schleswig-Holsteinischen Landesmuseum für Vor- und Frühgeschichte im Schleswig und dem Institut für Ur- und Frühgeschichte der Universität Kiel. Neue Folge II. Karl Wachholtz, Verlag. Neumünster,* 1955. 215 *p.* 4°, 36 *plates.*

This is a large and important contribution to the understanding of the culture of the neolithic period, not only in Schleswig-Holstein but also in the whole of Northern Germany and in Denmark. It is true that the single-grave culture of Schleswig-Holstein does not represent any independent culture-unit, having close affinities on the one side with the single-grave culture of Jutland and on the other with other cord-ceramic groups in Northern Germany; but just this intermediate position is important and a discussion on its culture affinities raises many interesting problems.

The material on which the investigation is based, is rather large; but it suffers from the fact that most of it consists of grave-finds, excavated by amateurs and without sufficient information, or scattered single finds. In the registration of the finds after types and chronology the author has to rely upon the painstaking and reliable system in which the Danish material was arranged, first by Sophus Müller, later (Aarb. 1944), by P. V. Glob, The material from Schleswig-Holstein is so closely related to the Jutlandic, that this is quite permissible. The only non-important differences are, that the later Jutlandic vessel types of flower-pot shape are not found in Schleswig-Holstein, but are due to a

more eastern influence, while on the other hand the late beakers in Holstein are not known from Jutland, but from the single-grave culture on the Danish islands, which is a little different.

The first wave of the single-grave people seem to have settled in Western Holstein, the megalithic inhabitants of which seem to have moved to the German North Sea territories; later on also Eastern Holstein, where there was a more compact megalithic population, was colonized.

The question on the origin and wanderings of the single-grave culture is discussed in detail. The possibility that it could have originated from the pre-megalithic funnel-beaker culture in Jutland, as Åberg and some others students maintain, is denied; in this respect the author is in agreement with most Danish scholars. The distribution of the oldest types of battle-axes (Glob's group A) and the oldest beaker type is rather wide, with a centre in Northern Germany north of the Harz, north of the important group in Sachsen-Thüringen. Here he thinks these types have originated, the vessels possibly under influence of the cord-beakers of the funnel-beaker culture. But possibly the grave type and the way of life (pastoral life, with sheep) comes from a far more eastern source—the Russian steppes (the Shaft-grave people). Probably a nomadic tribe from the steppes north of the Black Sea wandered into Middle Europe when they developed the types of battle-axes and vessels characteristic of the oldest stage of the single-grave culture, and from this area it spread in all directions and developed locally. One of these branches went to the North, to Schleswig-Holstein and Jutland, another developed under the influence of other cultures and joined the Sachsen-Thüringen group, the first with the Jutlandic type of battle axes and beakers, the last with faceted axes and amphorae. The period seems to be Middle Neolithic II (Blandebjerg stage). In a late stage of the development in Holstein the Danish islands were invaded by single-grave people.

The author's treatment of the enormous material seems to be solid and his conclusions cautious and sober; many problems have of course to remain unsolved, and also the question of the origin of the cord-ceramic cultures cannot be said to be finally solved; but the book is an important contribution to the discussion.

The book has an exhaustive list of all the material and a large number of plates with maps and specimens (drawn—but good drawings!) THERKEL MATHIASSEN.

HOMER AND BIBLE. *By* CYRUS H. GORDON. *Ventnor Publishers Incorporated, Ventnor, N.J.*, 1955, *pp.* 65. (Printed in the *Hebrew Union College Annual*, vol. XXVI, 1955, pp. 43–108). 1 dollar.

Professor Gordon is well known as a Ugaritic scholar, who is particularly concerned with the possible connections between the literature of Ugarit, Homer and the Bible. He believes that a common ancestor for Homer and the Bible can be found in East Mediterranean literature of the second millennium B.C. and that Ugarit has at last provided the literary link between Israel and Hellas. He supports this contention by about 160 different correspondences between Homer and the Bible or Ugaritic literature or both, grouped under the headings Society, War, Gods, and Style. Some are more convincing than others, but when all allowances have been made, enough remains to make the theory extremely attractive (between Homer and Ugarit other parallels have been noted by F. Dirlmeier, in *Rheinisches Museum* 89 (1955) 20 f.).

Transmission to the Hebrews is ascribed to the Philistines and transmission to Homer comes through the Mycenaeans. Greek derivations of Hebrew words are quoted as evidence; we can add now Semitic words (including *Phoinix*, *phoinikios*) from Linear B tablets in 13th century Pylos and 15th century Knossos. Two Ugaritic words *hdm*

(footstool) and *ṯkt* (ship) have no Greek parallels (Linear B uses *thranys* and *naus*) but might have Linear A parallels, which would give them the Minoan origin suggested by the author. Gordon believes that the Ugaritic god of arts and crafts was Caphtorian (=Cretan), and that Moses' craftsman Bezalel, who makes *kaftorim*, is a reflection of Daidalos (now identified in Linear B); it is not clear where he puts the boundary between Minoan and Mycenaean, since the settlement in Ugarit is Mycenaean, not Minoan. The evidence from Alalakh that the Asiatic mainland exported artists to Minoan Crete must also be considered. Transmission between Hittites and Mycenaeans also is extremely probable, and we have direct evidence for translation (with expansion) of Sumerian literary texts into Akkadian, Hurrian, Hittite and Phoenician (Beyrut).

To quote a single striking example, Gordon believes that both the Ugaritic epic of Kret's war to win back the Princess Hurray and the Gilgamesh Epic with the friendship of Gilgamesh and Enkidu have influenced both the *Iliad* (Menelaos and Helen, Achilles and Patroklos) and the story of David (David and Michal, David and Jonathan). Thus Homer and the Bible use a historical occasion much before their own time as a framework for foreign stories, which were adopted by their ancestors earlier than the historical occasion and one of which at least, the Gilgamesh epic, had a long history of its own before it was adopted. Moreover with the help of the Linear B tablets and archaeology we can now say with some probability that Achilles was a mythical character before the Mycenaeans knew the Gilgamesh epic or the Ugaritic epic, and that they knew both of these before the Trojan war. We can also use the tablets (as Gordon uses the Nuzi tablets for the Bible) to fix chronologically social and linguistic customs, which are only survivals in our 8th century Homer. With archaeology to help us it should now be possible to form some coherent view of the East Mediterranean culture of the second millennium as the common foundation on which the Greek and Hebrew civilizations were built.

T. B. L. WEBSTER.

ROMAN BRITAIN (*The Pelican History of England, Volume I*). *By* I. A. RICHMOND. *Penguin Books*, 1955, *pp.* 240, 12 *figures*, 8 *plates*. *Paper*, 2*s* 6*d*, *cloth* 7*s* 6*d*.

The publication of *Roman Britain* completes The Pelican History of England. As the Editorial note claims, ' each volume has been written by a specialist ', and each is indeed a considerable piece of scholarship. But Roman Britain, whose history depends so largely on archaeology and analogy, demands much more than specialization, and it is the breadth as much as the depth of its author's knowledge that makes this volume so valuable.

The plan of the book is simple and logical. First, a review of ' Military History ' deals with imperial policy and its military implementation, and at the same time provides a chronological framework into which the rest may be fitted. Second, ' Towns and Urban Centres ' covers the civil aspect of the policy and its effects, both administrative and physical. This is the best and in some ways the most important chapter in the book, not least for the attention it directs to the smaller walled sites and the pressing need for their exploration. Third, ' The Countryside ' gives the first general review since Little Woodbury of the Romano-British rural scene, including not only the villas and humbler farms but also the isolated shrines. ' Economics ' surveys all forms of industry and trade, with the addition of a helpful note on the development of the currency, and the last chapter is devoted to ' Religious Cults '. This is something of an appendix, and is inevitably partly repetitive, but the book would be both incomplete and much the poorer without it. Finally there is an excellent and up-to-date bibliography which alone would make the book indispensable to the student.

But, as befits a book in this series, it is not for the student only. It is an exposition to the general public of the present state of Roman Britain by its first citizen, and as such it will have a very large audience, not least among school teachers. This gives it a peculiar importance, because where so little is available it is bound to have a deep and lasting effect on Romano-British studies in the future. This is not a matter of the assessment of a particular site, nor even of an attitude to a particular problem, but rather of the whole balance of the story. Professor Richmond has, in his own words, concentrated on ' the subjects upon which evidence rather than conjecture holds the field ', but that has not prevented him from clothing the skeleton with human flesh ; his assessment of villa life is particularly stimulating. Moreover it would be impossible to give a coherent account of Roman Britain without some recourse to speculation, and here again his command of analogy gives him authority. This is not to say that all his speculations will, or should, be universally accepted. His interpretation of the position of Cogidumnus, involving his suzerainty over the Durotriges, is obviously an hypothesis inviting anaeresis.

One criticism might be advanced, not indeed of Professor Richmond's book but of the series as a whole. To quote the Editorial note again, it is intended ' to form an intelligent and *consecutive* guide ', but the practice of handing over different ' periods ' to different authors, while it has its advantages, has also its perils. Here a whole age has been lost. The Celtic Dark Ages received very slight treatment indeed from Miss Whitelock in Volume II and Volume I does little to fill the gap. A supplementary volume would be welcome, perhaps centred on the history of the British Church, and it might also give a somewhat fuller account of its Roman origins.

The book includes eight good plates and several maps and plans. The general map is necessarily on a small scale but the Durotriges (however they were treated) should be included, along with the Mendip lead mines ; they also have a better claim than the Belgae to Catsgore (pp. 109–10). The Coritani have supplanted the Cornovii on page 16 but in general there is the usual Pelican absence of misprints and the type is clear. In common with some other volumes in the series the book is available in a bound edition. In view of the wear it will have to endure this is a wise provision, but one may hope that it will not be too long before it is replaced by a greatly expanded version.

A. L. F. Rivet.

THE SCULPTURE OF THE HELLENISTIC AGE. *By* M. Bieber. 232 *pages and* 712 *figures. Columbia University Press*, 1955. (*London : Geoffrey Cumberlege*). £7.

A little while ago a scholar, distinguished in prehistoric researches, commented to me that classical archaeology seemed largely a study of the statues of pretty girls with no clothes on, or (a concession) fragments of them. He was, no doubt, joking, but the misconception is still not uncommon. It derives partly from ignorance, and partly from what the Renaissance knew and loved best of Greek art, that is to say Roman copies of Hellenistic sculpture. It is the Roman copyist rather than the Hellenistic artist who is responsible for the popularity of Aphrodites, and they are not usually representative of the best of Hellenistic art. But even ' statues of pretty girls ' and the like may be fit material for scholarly research, and quite blameless in the hands of a woman and a scholar like Miss Bieber. The Hellenistic period, for present purposes roughly from 330 to 30 B.C., Alexander to Augustus, saw the Greek sculptor in command at last of anatomical accuracy, facial expression, portraiture, and successful design in the round for both single figures and groups. The study of the sculpture of the period is however complicated by the fact that for it we have largely to rely on the accuracy of later

copyists, unlike archaic and classical sculpture in which we deal mainly with originals. A result is that few scholars have seriously attempted to write an overall appreciation of Hellenistic sculpture, although much work has been done towards the establishment and identification of sculptural types, and some on questions of chronology raised by the very few originals which can be closely dated on other than stylistic grounds. Miss Bieber has long occupied herself with these and germane studies and is therefore well equipped to tackle a subject of this scope. Almost all important works and copies of works of the Hellenistic period are described and discussed in her book, and many of them are illustrated. The subject matter is broadly divided among the various Schools, Pergamene, Rhodian, Alexandrian, etc., which have so far afforded the only means of pigeon-holing the sculpture of this period. For the most part the characteristics of each School are well known, and she summarizes and illustrates them clearly. She is generous in new attributions to them, perhaps over-dogmatic at times, but on the whole acceptable, and there are several striking comparisons made with coins and terracottas. In her dating of many pieces we find the greatest variance with the work of others, but by relating the datable pieces to the general development of the Schools instead of simply making individual comparisons her results are likely to be the more valuable ; this will always be the most difficult facet of the subject. Her descriptions are as full as one would wish although there is an occasional naïvety of expression and repetition of catch-phrases which make uneasy reading. Miss Richter's objections that the Schools are not strictly local and that by the first century B.C. the original artist had given place to the copyist are only in part answered.

In questions of date and interpretation there is much that is likely to remain debatable : the book's value as a handbook for the subject must be judged from the information and illustration it contains. All the important references to the works discussed appear in footnotes, but one would have thought that a full museum register, or at least statement of museum numbers, was an essential for a book of this sort ; certainly more so than the selected though long bibliography. For this Lippold's Handbook remains indispensable. Illustration is lavish—hence the prohibitive cost. Every piece treated in detail in the text is figured, as well as many minor works which illustrate particular points. The arrangement is good and a fairly happy compromise struck between demands of style, date and motive in grouping. Collotype can usually be relied upon to destroy any depth or texture conveyed by the original photograph, and here it excels itself in the lifeless rendering of sculpture whose greatest merits lie in subtle modelling and command of three dimensions. Even the prettiest of the girls, the Aphrodite from Cyrene, looks dull and robbed of all plasticity. Some portrait heads appear well, but the choice of so many photographs with heavy shadows and black backgrounds gives legitimate cause for complaint in such a book. Some are even reproduced from periodicals with the print from the other side of the page still apparent : thus the Vatican Demosthenes stands enveloped in an aura of retrograde German script.

The book was conceived in Germany over 20 years ago and sees the light of day now as one of a series of studies published in honour of Columbia University's Bicentennial celebrations. This perhaps prompts Miss Bieber's expressed hope that she has ' been able to write a better book here than would have been possible in Europe '. In view of the quality of some of the photographs and the information that they were ' acquired in Europe, mostly before 1933 ' the reader is perhaps at liberty to wonder. That the work just falls short of being a ' handbook ' is no reflection on the author's skill or scholarship : it remains a significant, full, and stimulating treatment of the most difficult and the most slighted branch of classical archaeology. JOHN BOARDMAN.

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Edited by
O. G. S. Crawford, C.B.E., Litt.D., F.B.A.

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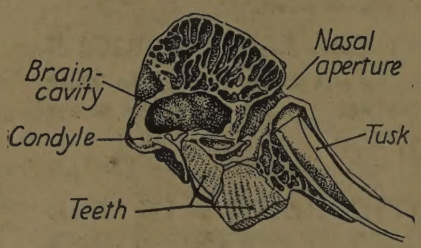

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